
CAPP-NGTL-001

Issue:

Depreciation

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4,
Appendix C, Depreciation Study

Request:

Please provide in an electronic form capable of computation all data underlying the depreciation study. This data should include inter alia:

- (a) plant installation and retirement data for individual accounts by vintage and calendar year, including transfers and adjustments designated by activity and transaction year as normally necessary to correct or modify previously recorded accounting entries
- (b) plant equipment and retirement, cost of removal, gross salvage, and net salvage data for individual accounts by calendar year
- (c) plant in service balances by individual account

Response:

The requested data were provided on a CD-ROM to CAPP as per at its request dated October 28, 2003. The data were also provided to the Board, ATCO and Consumers Group and are available to other interveners on request.

Issue:

Depreciation

Reference:

NEB Hearing RH-1-2002, Reply Evidence of TCPL, Appendix G, pages 22-24.

Preamble:

TCPL identified a number of data problems e.g. an exclusion of retirement data due to the implementation of new accounting systems.

Request:

Please identify any data problems incurred in compiling the NGTL depreciation study explaining their significance, how they were addressed, and their potential impact on the level of confidence in the study results.

Response:

The [date data](#) issues that were identified and addressed in the RH-1-2002 proceeding (the NEB approved an increase in the Mainline depreciation rate based on the data) did not arise in compiling the NGTL depreciation study.

NGTL and Gannett Fleming had all the data required to do a complete and thorough depreciation study, and have a high level of confidence that the study results justify the applied-for depreciation rates.

CAPP-NGTL-003

Issue:

Depreciation

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix C,
Depreciation Study

Request:

Is this the first formal NGTL depreciation study that has ever been filed with an Alberta Regulator (as distinct from the depreciation “reviews” referred to in previous proceedings)? If so, please discuss the issues that are faced when preparing such a study and how they are addressed.

Response:

Yes.

Potential issues faced when preparing any depreciation study include:

- The development of a policy regarding the appropriate depreciation methods, procedures and basis;
- The availability and quality of data to support the depreciation methods, procedures and basis;
- The review and application of company operating policies; and
- The identification of "outlier" historic events or programs.

In this depreciation study, Gannett Fleming addressed potential issues through discussions and interviews with NGTL. Please refer to Attachment ATCO-NGTL-012(b) for the notes of the interviews. None of the potential issues listed above became significant in this case.

CAPP-NGTL-004

Issue:

Depreciation

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix C,
Depreciation Study

Request:

Please show the impact on the composite and individual depreciation rates when the truncation date for depreciable plant is (1) increased by two years and (2) decreased by two years.

Response:

Please refer to Attachments 1 to 6 CAPP-NGTL-004.

The resulting overall composite depreciation rates are as follows:

- Increase truncation date by 2 years: 4.01%
- Decrease truncation date by 2 years: 4.26%.

NOVA GAS TRANSMISSION LTD

TABLE 1B SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION AS OF DECEMBER 31, 2002
CAPP - NGTL - 4 TRUNCATION AT 2027

ACCOUNT (1)	DESCRIPTION (2)	SURVIVOR CURVE (3)	NET SALVAGE (4)	ORIGINAL COST AT DECEMBER 31, 2002 (5)	CALCULATED ACCRUED DEPRECIATION (6)	ANNUAL ACCRUAL (7)	TRUE UP (8)	TOTAL EXPENSE (9)=(7)+(8)	RATE (10)
<u>METER STATIONS</u>									
4611	LAND RIGHTS DEPRECIABLE DEPLETABLE	27-R0.5 *	0	285,142.31 799,931.61 1,065,073.92	105,209 428,518 533,727	11,175 15,871 27,046	2,033 7,006 9,039	13,208 22,877 36,085	3.39
4630	BUILDINGS DEPRECIABLE DEPLETABLE	27-R0.5 *	-10 -15	21,005,878.78 50,588,443.14 71,594,321.92	9,940,791 28,664,984 38,605,775	940,416 1,064,555 2,004,971	306,280 568,715 874,995	1,246,696 1,633,270 2,879,966	4.02
4631	SITE DEPRECIABLE DEPLETABLE	27-R0.5 *	-33 -50	7,297,823.57 9,941,379.90 17,239,203.47	4,154,907 7,669,581 11,824,488	393,892 266,277 660,169	174,807 219,053 393,860	568,699 485,330 1,054,029	6.11
4670	AUTOMATION DEPRECIABLE DEPLETABLE	27-R0.5 *	0	16,756,572.91 39,544,868.01 56,301,440.92	5,869,393 20,266,528 26,135,921	750,301 681,468 1,431,768	240,607 533,242 773,849	990,908 1,214,710 2,205,617	3.92
4671	INSTRUMENTATION DEPRECIABLE DEPLETABLE	27-R0.5 *	0	24,448,738.02 36,221,217.59 60,669,955.61	6,315,962 17,247,213 23,563,175	1,292,665 652,372 1,945,037	295,442 522,856 818,298	1,588,107 1,175,228 2,763,335	4.55
4672	PIPING DEPRECIABLE DEPLETABLE	27-R0.5 *	-7 -10	88,557,054.73 129,220,403.18 217,777,457.91	41,417,842 68,211,056 109,628,898	3,884,116 2,768,527 6,652,642	1,064,605 1,120,529 2,185,134	4,948,721 3,889,056 8,837,776	4.06
4673	ELECTRICAL SYSTEM DEPRECIABLE DEPLETABLE	27-R0.5 *	0	14,008,002.76 38,278,464.50 52,286,467.26	5,608,271 19,177,083 24,785,354	588,062 675,517 1,263,579	162,367 352,031 514,398	750,429 1,027,548 1,777,977	3.40
<u>TOTAL METER STATIONS</u>									
<u>COMPRESSOR STATIONS</u>									
4612	LAND RIGHTS	30-S3	0	868,287.75	205,383	32,980	3,925	36,905	4.25
4620	BUILDINGS	25-S2 *	-18	166,903,893.33	87,591,825	8,453,775	2,432,370	10,886,145	6.52
4621	SITE	27-S2 *	-62	46,741,022.11	33,702,002	3,032,161	1,693,294	4,725,455	10.11
4661	COMPRESSOR UNIT	23-R2.5 *	5	720,377,656.02	305,142,125	31,035,200	5,433,837	36,469,037	5.06
4662	PIPING	24-R2.5 *	-9	414,916,771.88	195,590,184	19,763,495	4,446,972	24,230,467	5.84
4663	INSTRUMENTATION	24-R2.5 *	-4	28,777,806.60	11,684,333	1,336,188	175,995	1,512,183	5.25
4664	ELECTRIC SYSTEM	24-R2.5 *	0	94,312,300.58	43,166,431	4,076,140	448,760	4,524,900	4.80
4665	CONTROL SYSTEM	20-S0.5 *	0	42,003,038.93	17,668,540	2,279,700	662,841	2,942,541	7.01
<u>TOTAL COMPRESSOR STATIONS</u>									
<u>PIPELINES</u>									
4610	LAND RIGHTS DEPRECIABLE DEPLETABLE	65-R3 *	0	20,844,708.03 32,343,339.39 53,188,047.42	6,673,987 16,422,965 23,096,952	595,177 573,962 1,169,139	9,919 22,552 32,471	605,096 596,514 1,201,610	2.26

NOVA GAS TRANSMISSION LTD

TABLE 1B SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION AS OF DECEMBER 31, 2002
CAPP - NGTL - 4 TRUNCATION AT 2027

ACCOUNT (1)	DESCRIPTION (2)	SURVIVOR CURVE (3)	NET SALVAGE (4)	ORIGINAL COST AT DECEMBER 31, 2002 (5)	CALCULATED ACRUED DEPRECIATION (6)	ANNUAL ACCRUAL (7)	TRUE UP (8)	TOTAL EXPENSE (9)=(7)+(8)	RATE (10)
4651	PIPE DEPRECIABLE	65-R3	-1	2,868,851,292.21	901,337,984	83,809,977	2,785,982	86,595,959	
			-10	1,700,572,571.72	884,657,151	37,621,501	2,712,101	40,333,602	
				4,569,423,863.94	1,785,995,135	121,431,478	5,498,083	126,929,561	2.78
4652	VALVE ASSEMBLIES DEPRECIABLE	55-R2	-2	203,188,321.67	60,721,413	6,641,071	690,742	7,331,813	
			-10	92,296,642.96	48,479,065	2,073,246	553,845	2,627,091	
				295,484,964.64	109,200,478	8,714,317	1,244,587	9,958,904	3.37
	TOTAL PIPELINES			4,918,096,876.00	1,918,292,565	131,314,933	6,775,141	138,090,074	
	GENERAL PLANT								
4010	INTANGIBLE ASSETS	20-SQ	0	6,678,074.29	4,725,416	300,409	52,621	353,030	5.29
4821	BUILDINGS	30-L1.5	20	82,355,236.48	31,218,304	2,346,840	1,470,191	3,817,031	4.63
4831	OFFICE FURNITURE	15-SQ	0	27,151,240.22	12,982,064	1,674,240	(165,381)	1,508,859	5.56
4832	OFFICE EQUIPMENT	15-SQ	0	4,418,965.36	2,816,663	294,745	(294,745)	-	0.00
4834	COMPUTER HARDWARE	5-SQ	0	56,116,016.47	31,381,778	11,223,203	4,221,199	15,444,402	27.52
4836	COMPUTER SOFTWARE	5-SQ	0	133,250,039.67	68,151,082	26,650,008	11,784,548	38,434,556	28.84
4841	VEHICLES AND TRAILERS	7-L2	30	28,430,669.56	14,585,435	2,005,011	161,082	2,166,093	7.62
4850	HEAVY WORK EQUIPMENT	20-S0.5	20	10,157,196.09	4,597,040	382,445	(173,320)	209,125	2.06
4860	TOOLS AND WORK EQUIPMENT	30-SQ	0	34,083,774.95	5,235,216	1,135,323	(450,651)	684,672	2.01
4880	MISCELLANEOUS EQUIPMENT	20-SQ	0	22,557,075.31	4,157,014	1,127,831	7,228	1,135,059	5.03
	TOTAL GENERAL PLANT			405,208,288.40	179,850,012	47,140,055	16,612,772	63,752,827	
	TOTAL PLANT STUDIED			7,315,139,862.61	3,027,970,738	262,469,839	44,255,480	306,725,319	
	PLANT NOT STUDIED								
4820/4822	LEASEHOLD IMPROVEMENTS			10,340,641.31					
4601	LAND			11,916,063.13					
4602	LAND			-					
4600	LAND			-					
4800	LAND			-					
4810	LAND RIGHTS			626.00					
4842	AIRCRAFT			2,596,773.81					
	AFUDC			128,310.33					
	TOTAL PLANT NOT STUDIED			24,982,414.58					
	TOTAL NGTL PLANT			7,340,122,277.19					

* Interim Survivor curves were truncated at December 31, 2027

NOVA GAS TRANSMISSION LTD

TABLE 2B SUMMARY OF CALCULATED ACCRUED DEPRECIATION, BOOKED ACCUMULATED DEPRECIATION
 AND CALCULATION OF ANNUAL TRUE-UP PROVISION AS OF DECEMBER 31, 2002
 CAPP - NGTL - 4 TRUNCATION AT 2027

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST AT DECEMBER 31, 2002 (3)	CALCULATED ACCRUED DEPRECIATION (4)	BOOKED ACCUMULATED DEPRECIATION (5)	ACCUMULATED DEPRECIATION VARIANCE (6)=(4)-(5)	COMPOSITE REMAINING LIFE (7)	ANNUAL TRUE-UP (8)=(6)/(7)
	<u>METER STATIONS</u>						
4611	LAND RIGHTS DEPRECIABLE DEPLETABLE	265,142.31 799,931.61 1,065,073.92	105,209 428,518 533,727	69,429 282,785 352,213	35,780 145,733 181,514	17.6 20.8	2,033 7,006 9,039
4630	BUILDINGS DEPRECIABLE DEPLETABLE	21,005,878.78 50,588,443.14 71,594,321.92	9,940,791 28,664,984 38,605,775	4,734,030 13,650,916 18,384,946	5,206,761 15,014,068 20,220,829	17.0 26.4	306,280 568,715 874,995
4631	SITE DEPRECIABLE DEPLETABLE	7,297,823.57 9,941,379.90 17,239,203.47	4,154,907 7,669,581 11,824,488	1,235,633 2,280,866 3,516,499	2,919,274 5,388,715 8,307,989	16.7 24.6	174,807 219,053 393,860
4670	AUTOMATION DEPRECIABLE DEPLETABLE	16,756,572.91 39,544,868.01 56,301,440.92	5,869,393 20,266,528 26,135,921	1,514,400 5,229,097 6,743,497	4,354,993 15,037,431 19,392,424	18.1 28.2	240,607 533,242 773,850
4671	INSTRUMENTATION DEPRECIABLE DEPLETABLE	24,448,738.02 36,221,217.59 60,669,955.61	6,315,962 17,247,213 23,563,175	820,746 2,241,240 3,061,986	5,495,216 15,005,973 20,507,189	18.6 28.7	295,442 522,856 818,298
4672	PIPING DEPRECIABLE DEPLETABLE	88,557,054.73 129,220,403.18 217,777,457.91	41,417,842 68,211,056 109,628,898	23,319,551 38,404,975 61,724,526	18,098,291 29,806,081 47,904,372	17.0 26.6	1,064,605 1,120,529 2,185,135
4673	ELECTRICAL SYSTEM DEPRECIABLE DEPLETABLE	14,008,002.76 38,278,464.50 52,286,467.26	5,608,271 19,177,083 24,785,354	2,766,842 9,461,018 12,227,859	2,841,429 9,716,065 12,557,495	17.5 27.6	162,367 352,031 514,399
	TOTAL METER STATIONS	476,933,921.01	235,077,338	106,011,527	129,065,811		5,569,575
	<u>COMPRESSOR STATIONS</u>						
4612	LAND RIGHTS	868,287.75	205,383	123,353	82,030	20.9	3,925

NOVA GAS TRANSMISSION LTD

TABLE 2B SUMMARY OF CALCULATED ACCRUED DEPRECIATION, BOOKED ACCUMULATED DEPRECIATION
 AND CALCULATION OF ANNUAL TRUE-UP PROVISION AS OF DECEMBER 31, 2002
 CAPP - NGTL - 4 TRUNCATION AT 2027

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST AT DECEMBER 31, 2002 (3)	CALCULATED ACCRUED DEPRECIATION (4)	BOOKED ACCUMULATED DEPRECIATION (5)	ACCUMULATED DEPRECIATION VARIANCE (6)=(4)-(5)	COMPOSITE REMAINING LIFE (7)	ANNUAL TRUE-UP (8)=(6)/(7)
4620	BUILDINGS	166,903,893.33	87,591,825	52,808,937	34,782,888	14.3	2,432,370
4621	SITE	46,741,022.11	33,702,002	8,641,244	25,060,758	14.8	1,693,294
4661	COMPRESSOR UNIT	720,377,656.02	305,142,125	231,241,935	73,900,190	13.6	5,433,837
4662	PIPING	414,916,771.88	195,590,184	131,553,787	64,036,397	14.4	4,446,972
4663	INSTRUMENTATION	28,777,806.60	11,684,333	8,991,615	2,692,718	15.3	175,995
4664	ELECTRIC SYSTEM	94,312,300.58	43,166,431	36,794,044	6,372,387	14.2	448,760
4665	CONTROL SYSTEM	42,003,038.93	17,668,540	9,250,462	8,418,078	12.7	662,841
	TOTAL COMPRESSOR STATIONS	1,514,900,777.20	694,750,823	479,405,377	215,345,446		15,297,994

NOVA GAS TRANSMISSION LTD

TABLE 2B SUMMARY OF CALCULATED ACCRUED DEPRECIATION, BOOKED ACCUMULATED DEPRECIATION
AND CALCULATION OF ANNUAL TRUE-UP PROVISION AS OF DECEMBER 31, 2002
CAPP - NGTL - 4 TRUNCATION AT 2027

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST AT DECEMBER 31, 2002 (3)	CALCULATED ACCRUED DEPRECIATION (4)	BOOKED ACCUMULATED DEPRECIATION (5)	ACCUMULATED DEPRECIATION VARIANCE (6)=(4)-(5)	COMPOSITE REMAINING LIFE (7)	ANNUAL TRUE-UP (8)=(6)/(7)
	PIPELINES						
4610	LAND RIGHTS DEPRECIABLE DEPLETABLE	20,844,708.03 32,343,339.39 53,188,047.42	6,673,987 16,422,965 23,096,952	6,432,955 15,829,848 22,262,803	241,032 593,117 834,149	24.3 26.3	9,919 22,552 32,471
4651	PIPE DEPRECIABLE DEPLETABLE	2,868,851,292.21 1,700,572,571.72 4,569,423,863.94	901,337,984 884,657,151 1,785,995,135	833,638,615 818,210,677 1,651,849,292	67,699,369 66,446,474 134,145,843	24.3 24.5	2,785,982 2,712,101 5,498,083
4652	VALVE ASSEMBLIES DEPRECIABLE DEPLETABLE	203,188,321.67 92,296,642.96 295,484,964.64	60,721,413 48,479,065 109,200,478	44,558,051 35,574,479 80,132,530	16,163,362 12,904,586 29,067,948	23.4 23.3	690,742 553,845 1,244,587
	TOTAL PIPELINES	4,918,096,876.00	1,918,292,565	1,754,244,625	164,047,940		6,775,141
	GENERAL PLANT						
4010	INTANGIBLE ASSETS	6,678,074.29	4,725,416	4,647,011	78,405	1.5	52,621
4821	BUILDINGS	82,355,236.48	31,218,304	3,431,703	27,786,601	18.9	1,470,191
4831	OFFICE FURNITURE	27,151,240.22	12,982,064	14,718,566	(1,736,502)	10.5	(165,381)
4832	OFFICE EQUIPMENT	4,418,965.36	2,816,663	5,298,235	(2,481,572)	1.0	(2,481,572)
4834	COMPUTER HARDWARE	56,116,016.47	31,381,778	18,296,062	13,085,716	3.1	4,221,199
4836	COMPUTER SOFTWARE	133,250,039.67	68,151,082	41,046,621	27,104,461	2.3	11,784,548
4841	VEHICLES AND TRAILERS	28,430,669.56	14,585,435	14,134,405	451,030	2.8	161,082
4850	HEAVY WORK EQUIPMENT	10,157,196.09	4,597,040	7,786,119	(3,189,079)	18.4	(173,320)
4860	TOOLS AND WORK EQUIPMENT	34,093,774.95	5,235,216	17,177,473	(11,942,257)	26.5	(450,651)
4880	MISCELLANEOUS EQUIPMENT	22,557,075.31	4,157,014	4,039,195	117,819	16.3	7,228
	TOTAL GENERAL PLANT	405,208,288.40	179,850,012	130,575,391	49,274,621		14,425,944
	TOTAL PLANT STUDIED	7,315,139,862.61	3,027,970,738	2,470,236,921	557,733,817		42,068,654
	PLANT NOT STUDIED						
4820/4822	LEASEHOLD IMPROVEMENTS	10,340,641.31		(148,056)			
4601	LAND	11,916,063.13		(72,079)			
4602	LAND	-		(472,624)			
4600	LAND	-		519,422			
4800	LAND	-		-			

NOVA GAS TRANSMISSION LTD

TABLE 2B SUMMARY OF CALCULATED ACCRUED DEPRECIATION, BOOKED ACCUMULATED DEPRECIATION
 AND CALCULATION OF ANNUAL TRUE-UP PROVISION AS OF DECEMBER 31, 2002
 CAPP - NGTL - 4 TRUNCATION AT 2027

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST AT DECEMBER 31, 2002 (3)	CALCULATED ACCRUED DEPRECIATION (4)	BOOKED ACCUMULATED DEPRECIATION (5)	ACCUMULATED DEPRECIATION VARIANCE (6)=(4)-(5)	COMPOSITE REMAINING LIFE (7)	ANNUAL TRUE-UP (8)=(6)/(7)
4810	LAND RIGHTS	626.00		216			
4842	AIRCRAFT AFUDC	2,596,773.81 128,310.33		1,151,469 13,468			
	TOTAL PLANT NOT STUDIED	24,982,414.58		991,816			
	TOTAL NGTL PLANT	<u>7,340,122,277.19</u>		<u>2,471,228,737</u>			

NOVA GAS TRANSMISSION LTD
 TABLE 3B. CALCULATION OF THE WEIGHTED NET SALVAGE PERCENTAGES APPLICABLE
 TO DEPRECIABLE METER STATIONS, PIPELINE, AND COMPRESSION FACILITIES
 CAPP - NGTL - 4 TRUNCATION SET AT 2027

Account	Original Cost 12/31/2002(*)	Forecast 12/31/2023	Interim Retirement	Weighting	salvage %	weighted salvage %
4610	20,844,708.03	18,911,931	1,932,777	0.092723	-	-
4611	265,143.21	98,845	166,298	0.627202	-	-
4612	868,287.75	386,297	481,991	0.555105	-	-
4620	166,903,893.33	20,509,491	146,394,402	0.877118	(20.0)	(17.5)
4621	46,741,022.11	8,120,047	38,620,975	0.826276	(75.0)	(62.0)
4630	21,005,878.78	7,168,805	13,837,074	0.658724	(15.0)	(9.9)
4631	7,297,823.57	2,517,926	4,779,897	0.654976	(50.0)	(32.7)
4651	2,868,851,292.21	2,602,726,262	266,125,030	0.092764	(10.0)	(0.9)
4652	203,188,321.67	169,446,023	33,742,299	0.166064	(10.0)	(1.7)
4661	720,377,656.02	53,054,170	667,323,486	0.926352	5.0	4.6
4662	414,916,771.88	40,943,799	373,972,973	0.90132	(10.0)	(9.0)
4663	28,777,806.60	3,938,125	24,839,681	0.863154	(5.0)	(4.3)
4664	94,312,300.58	7,927,582	86,384,718	0.915943	-	-
4665	42,003,038.93	4,149,458	37,853,581	0.901211	-	-
4670	16,756,572.91	6,940,657	9,815,916	0.585795	-	-
4671	24,448,738.02	11,286,302	13,162,436	0.538369	-	-
4672	88,557,054.73	29,667,953	58,889,101	0.664985	(10.0)	(6.6)
4673	14,008,002.76	5,200,303	8,807,699	0.628762	-	-

(*) Depreciable Assets only

NOVA GAS TRANSMISSION LTD

TABLE 1A SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION AS OF DECEMBER 31, 2002
CAPP - NGTL - 4 TRUNCATION AT 2023

ACCOUNT (1)	DESCRIPTION (2)	SURVIVOR CURVE (3)	NET SALVAGE (4)	ORIGINAL COST AT DECEMBER 31, 2002 (5)	CALCULATED ACCRUED DEPRECIATION (6)	ANNUAL ACCRUAL (7)	TRUE UP (8)	TOTAL EXPENSE (9)=(7)+(8)	RATE (10)	
METER STATIONS										
4611	LAND RIGHTS DEPRECIABLE DEPLETABLE	27-R0.5 *	0	285,142.31 799,931.61 1,065,073.92	108,883 428,518 537,401	11,644 15,871 27,515	2,360 7,099 9,459	14,004 22,970 36,974	3.47	
4630	BUILDINGS DEPRECIABLE DEPLETABLE	27-R0.5 *	-8 -15	21,005,878.78 50,588,443.14 71,594,321.92	10,059,507 28,664,984 38,724,491	959,510 1,064,555 2,024,065	343,093 570,300 913,393	1,302,603 1,634,855 2,937,458	4.10	
4631	SITE DEPRECIABLE DEPLETABLE	27-R0.5 *	-28 -50	7,297,823.57 9,941,379.90 17,239,203.47	4,122,758 7,669,581 11,792,339	394,126 266,277 660,404	190,532 218,801 409,333	584,658 485,078 1,069,737	6.21	
4670	AUTOMATION DEPRECIABLE DEPLETABLE	27-R0.5 *	0 0	16,756,572.91 39,544,868.01 56,301,440.92	6,115,376 20,266,528 26,381,904	784,665 681,468 1,466,133	279,277 534,971 814,248	1,063,942 1,216,439 2,280,381	4.05	
4671	INSTRUMENTATION DEPRECIABLE DEPLETABLE	27-R0.5 *	0 0	24,448,738.02 36,221,217.59 60,669,955.61	6,599,089 17,247,213 23,846,302	1,359,896 652,372 2,012,268	346,490 523,783 870,273	1,706,386 1,176,155 2,882,541	4.75	
4672	PIPING DEPRECIABLE DEPLETABLE	27-R0.5 *	-6 -10	88,557,054.73 129,220,403.18 217,777,457.91	42,285,726 68,211,056 110,476,782	3,994,002 2,768,527 6,762,528	1,211,132 1,131,610 2,342,742	5,205,134 3,900,137 9,105,270	4.18	
4673	ELECTRICAL SYSTEM DEPRECIABLE DEPLETABLE	27-R0.5 *	0 0	14,008,002.76 38,278,464.50 52,286,467.26	5,806,476 19,177,083 24,983,559	612,635 675,517 1,288,152	187,631 354,751 542,382	800,266 1,030,268 1,830,534	3.50	
TOTAL METER STATIONS										
					476,933,921.01	236,742,778	14,241,066	5,901,830	20,142,896	
COMPRESSOR STATIONS										
4612	LAND RIGHTS	30-S3 *	0	888,287.75	217,173	35,438	4,990	40,428	4.66	
4620	BUILDINGS	25-S2 *	-15	166,903,893.33	86,440,324	8,387,411	2,472,896	10,860,307	6.51	
4621	SITE	27-S2 *	-52	46,741,022.11	32,187,955	2,912,676	1,681,908	4,594,584	9.83	
4661	COMPRESSOR UNIT	23-R2.5 *	4	720,377,656.02	310,367,047	31,795,464	5,994,327	37,789,791	5.25	
4662	PIPING	24-R2.5 *	-8	414,916,771.88	195,839,695	19,933,674	4,658,399	24,592,073	5.93	
4663	INSTRUMENTATION	24-R2.5 *	-4	28,777,806.60	11,847,132	1,367,357	196,932	1,564,289	5.44	
4664	ELECTRIC SYSTEM	24-R2.5 *	0	94,312,300.58	43,552,668	4,136,290	493,330	4,629,620	4.91	
4665	CONTROL SYSTEM	20-S0.5 *	0	42,003,038.93	17,808,020	2,313,445	701,439	3,014,884	7.18	
TOTAL COMPRESSOR STATIONS					1,514,900,777.20	698,260,014	70,881,755	16,204,221	87,085,976	
PIPELINES										
4610	LAND RIGHTS DEPRECIABLE DEPLETABLE	65-R3 *	0 0	20,844,708.03 32,343,339.39 53,188,047.42	7,342,609 16,422,965 23,765,574	627,998 573,962 1,201,960	22,649 39,486 62,135	650,647 613,448 1,264,095	2.38	

NOVA GAS TRANSMISSION LTD

TABLE 1A SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION AS OF DECEMBER 31, 2002
CAPP - NGTL - 4 TRUNCATION AT 2023

ACCOUNT (1)	DESCRIPTION (2)	SURVIVOR CURVE (3)	NET SALVAGE (4)	ORIGINAL COST AT DECEMBER 31, 2002 (5)	CALCULATED ACRUED DEPRECIATION (6)	ANNUAL ACCRUAL (7)	TRUE UP (8)	TOTAL EXPENSE (9)=(7)+(8)	RATE (10)
4651	PIPE DEPRECIABLE	65-R3	* -10	2,868,851,292.21 1,700,572,571.72 4,569,423,863.94	991,416,644 884,657,151 1,876,073,795	93,948,022 37,621,501 131,569,523	5,780,102 4,315,609 10,095,711	99,728,124 41,937,110 141,665,234	3.10
4652	VALVE ASSEMBLIES DEPRECIABLE	55-R2	* -10	203,188,321.67 92,296,642.96 295,484,964.64	65,747,924 48,479,065 114,226,989	7,296,590 2,073,246 9,369,835	986,152 621,031 1,607,183	8,282,742 2,694,277 10,977,018	3.71
	TOTAL PIPELINES			4,918,096,876.00	2,014,066,358	142,141,318	11,785,029	153,906,347	
	GENERAL PLANT								
4010	INTANGIBLE ASSETS	20-SQ	0	6,678,074.29	4,725,416	300,409	52,621	353,030	5.29
4821	BUILDINGS	30-L1.5	20	82,355,236.48	31,218,304	2,346,840	1,470,191	3,817,031	4.63
4831	OFFICE FURNITURE	15-SQ	0	27,151,240.22	12,982,064	1,674,240	(165,381)	1,508,859	5.56
4832	OFFICE EQUIPMENT	15-SQ	0	4,418,965.36	2,816,663	294,745	(294,745)	-	0.00
4834	COMPUTER HARDWARE	5-SQ	0	56,116,016.47	31,381,778	11,223,203	4,221,199	15,444,402	27.52
4836	COMPUTER SOFTWARE	5-SQ	0	133,250,039.67	68,151,082	26,650,008	11,784,548	38,434,556	28.84
4841	VEHICLES AND TRAILERS	7-L2	30	28,430,669.56	14,585,435	2,005,011	161,082	2,166,093	7.62
4850	HEAVY WORK EQUIPMENT	20-S0.5	20	10,157,196.09	4,597,040	382,445	(173,320)	209,125	2.06
4860	TOOLS AND WORK EQUIPMENT	30-SQ	0	34,083,774.95	5,235,216	1,135,323	(450,651)	684,672	2.01
4880	MISCELLANEOUS EQUIPMENT	20-SQ	0	22,557,075.31	4,157,014	1,127,831	7,228	1,135,059	5.03
	TOTAL GENERAL PLANT			405,208,288.40	179,850,012	47,140,055	16,612,772	63,752,827	
	TOTAL PLANT STUDIED			7,315,139,862.61	3,128,919,162	274,404,194	50,483,852	324,888,046	
	PLANT NOT STUDIED								
4820/4822	LEASEHOLD IMPROVEMENTS			10,340,641.31					
4601	LAND			11,916,063.13					
4602	LAND			-					
4600	LAND			-					
4800	LAND			-					
4810	LAND RIGHTS			626.00					
4842	AIRCRAFT			2,596,773.81					
	AFUDC			128,310.33					
	TOTAL PLANT NOT STUDIED			24,982,414.58					
	TOTAL NGTL PLANT			7,340,122,277.19					

* Interim Survivor curves were truncated at December 31, 2023

NOVA GAS TRANSMISSION LTD

TABLE 2A SUMMARY OF CALCULATED ACCRUED DEPRECIATION, BOOKED ACCUMULATED DEPRECIATION
AND CALCULATION OF ANNUAL TRUE-UP PROVISION AS OF DECEMBER 31, 2002
CAPP - NGTL - 4 TRUNCATION AT 2023

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST AT DECEMBER 31, 2002 (3)	CALCULATED ACCRUED DEPRECIATION (4)	BOOKED ACCUMULATED DEPRECIATION (5)	ACCUMULATED DEPRECIATION VARIANCE (6)=(4)-(5)	COMPOSITE REMAINING LIFE (7)	ANNUAL TRUE-UP (8)=(6)/(7)
	<u>METER STATIONS</u>						
4611	LAND RIGHTS DEPRECIABLE DEPLETABLE	265,142.31 799,931.61 1,065,073.92	108,883 428,518 537,401	71,362 280,851 352,213	37,521 147,667 185,188	15.9 20.8	2,360 7,099 9,459
4630	BUILDINGS DEPRECIABLE DEPLETABLE	21,005,878.78 50,588,443.14 71,594,321.92	10,059,507 28,664,984 38,724,491	4,775,879 13,609,067 18,384,946	5,283,628 15,055,917 20,339,545	15.4 26.4	343,093 570,300 913,393
4631	SITE DEPRECIABLE DEPLETABLE	7,297,823.57 9,941,379.90 17,239,203.47	4,122,758 7,669,581 11,792,339	1,229,415 2,287,085 3,516,499	2,893,343 5,382,496 8,275,840	15.2 24.6	190,352 218,801 409,152
4670	AUTOMATION DEPRECIABLE DEPLETABLE	16,756,572.91 39,544,868.01 56,301,440.92	6,115,376 20,266,528 26,381,904	1,563,156 5,180,342 6,743,497	4,552,220 15,086,186 19,638,407	16.3 28.2	279,277 534,971 814,248
4671	INSTRUMENTATION DEPRECIABLE DEPLETABLE	24,448,738.02 36,221,217.59 60,669,955.61	6,599,089 17,247,213 23,846,302	847,356 2,214,629 3,061,986	5,751,733 15,032,584 20,784,316	16.6 28.7	346,490 523,783 870,273
4672	PIPING DEPRECIABLE DEPLETABLE	88,557,054.73 129,220,403.18 217,777,457.91	42,265,726 68,211,056 110,476,782	23,614,300 38,110,226 61,724,526	18,651,426 30,100,830 48,752,256	15.4 26.6	1,211,132 1,131,610 2,342,742
4673	ELECTRICAL SYSTEM DEPRECIABLE DEPLETABLE	14,008,002.76 38,278,464.50 52,286,467.26	5,806,476 19,177,083 24,983,559	2,841,900 9,385,960 12,227,859	2,964,576 9,791,123 12,755,700	15.8 27.6	187,631 354,751 542,382
	TOTAL METER STATIONS	476,933,921.01	236,742,778	106,011,527	130,731,251		5,901,650
	<u>COMPRESSOR STATIONS</u>						
4612	LAND RIGHTS	868,287.75	217,173	123,353	93,820	18.8	4,990
4620	BUILDINGS	166,903,893.33	86,440,324	52,808,937	33,631,387	13.6	2,472,896

NOVA GAS TRANSMISSION LTD

TABLE 2A SUMMARY OF CALCULATED ACCRUED DEPRECIATION, BOOKED ACCUMULATED DEPRECIATION
 AND CALCULATION OF ANNUAL TRUE-UP PROVISION AS OF DECEMBER 31, 2002
 CAPP - NGTL - 4 TRUNCATION AT 2023

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST AT DEMEMBER 31, 2002 (3)	CALCULATED ACCRUED DEPRECIATION (4)	BOOKED ACCUMULATED DEPRECIATION (5)	ACCUMULATED DEPRECIATION VARIANCE (6)=(4)-(5)	COMPOSITE REMAINING LIFE (7)	ANNUAL TRUE-UP (8)=(6)/(7)
4621	SITE	46,741,022.11	32,187,955	8,641,244	23,546,711	14.0	1,681,908
4661	COMPRESSOR UNIT	720,377,656.02	310,367,047	231,241,935	79,125,112	13.2	5,994,327
4662	PIPING	414,916,771.88	195,839,695	131,553,787	64,285,908	13.8	4,658,399
4663	INSTRUMENTATION	28,777,806.60	11,847,132	8,991,615	2,855,517	14.5	196,932
4664	ELECTRIC SYSTEM	94,312,300.58	43,552,668	36,794,044	6,758,624	13.7	493,330
4665	CONTROL SYSTEM	42,003,038.93	17,808,020	9,250,462	8,557,558	12.2	701,439
TOTAL COMPRESSOR STATIONS		1,514,900,777.20	698,260,014	479,405,377	218,854,637		16,204,222

NOVA GAS TRANSMISSION LTD

TABLE 2A SUMMARY OF CALCULATED ACCRUED DEPRECIATION, BOOKED ACCUMULATED DEPRECIATION
AND CALCULATION OF ANNUAL TRUE-UP PROVISION AS OF DECEMBER 31, 2002
CAPP - NGTL - 4 TRUNCATION AT 2023

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST AT DECEMBER 31, 2002 (3)	CALCULATED ACCRUED DEPRECIATION (4)	BOOKED ACCUMULATED DEPRECIATION (5)	ACCUMULATED DEPRECIATION VARIANCE (6)=(4)-(5)	COMPOSITE REMAINING LIFE (7)	ANNUAL TRUE-UP (8)=(6)/(7)
	<u>PIPELINES</u>						
4610	LAND RIGHTS DEPRECIABLE DEPLETABLE	20,844,708.03 32,343,339.39 53,188,047.42	7,342,609 16,422,965 23,765,574	6,878,313 15,384,490 22,262,803	464,296 1,038,475 1,502,771	20.5 26.3	22,649 39,486 62,134
4651	PIPE DEPRECIABLE DEPLETABLE	2,868,851,292.21 1,700,572,571.72 4,569,423,863.94	991,416,644 884,657,151 1,876,073,795	872,924,554 778,924,738 1,651,849,292	118,492,090 105,732,413 224,224,503	20.5 24.5	5,780,102 4,315,609 10,095,711
4652	VALVE ASSEMBLIES DEPRECIABLE DEPLETABLE	203,188,321.67 92,296,642.96 295,484,964.64	65,747,924 48,479,065 114,226,989	46,123,491 34,009,039 80,132,530	19,624,433 14,470,026 34,094,459	19.9 23.3	986,152 621,031 1,607,184
	TOTAL PIPELINES	4,918,096,876.00	2,014,066,358	1,754,244,625	259,821,733		11,765,029
	<u>GENERAL PLANT</u>						
4010	INTANGIBLE ASSETS	6,678,074.29	4,725,416	4,647,011	78,405	1.5	52,621
4821	BUILDINGS	82,355,236.48	31,218,304	3,431,703	27,786,601	18.9	1,470,191
4831	OFFICE FURNITURE	27,151,240.22	12,982,064	14,718,566	(1,736,502)	10.5	(165,381)
4832	OFFICE EQUIPMENT	4,418,965.36	2,816,663	5,298,235	(2,481,572)	1.0	(2,481,572)
4834	COMPUTER HARDWARE	56,116,016.47	31,381,778	18,296,062	13,085,716	3.1	4,221,199
4836	COMPUTER SOFTWARE	133,250,039.67	68,151,082	41,046,621	27,104,461	2.3	11,784,548
4841	VEHICLES AND TRAILERS	28,430,669.56	14,585,435	14,134,405	451,030	2.8	161,082
4850	HEAVY WORK EQUIPMENT	10,157,196.09	4,597,040	7,786,119	(3,189,079)	18.4	(173,320)
4860	TOOLS AND WORK EQUIPMENT	34,093,774.95	5,235,216	17,177,473	(11,942,257)	26.5	(450,651)
4880	MISCELLANEOUS EQUIPMENT	22,557,075.31	4,157,014	4,039,195	117,819	16.3	7,228
	TOTAL GENERAL PLANT	405,208,288.40	179,850,012	130,575,391	49,274,621		14,425,944
	TOTAL PLANT STUDIED	7,315,139,862.61	3,128,919,162	2,470,236,921	658,682,241		48,296,844
	<u>PLANT NOT STUDIED</u>						
4820/4822	LEASEHOLD IMPROVEMENTS	10,340,641.31		(148,056)			
4601	LAND	11,916,063.13		(72,079)			
4602	LAND	-		(472,624)			
4600	LAND	-		519,422			
4800	LAND	-		-			
4810	LAND RIGHTS	626.00		216			

NOVA GAS TRANSMISSION LTD

TABLE 2A SUMMARY OF CALCULATED ACCRUED DEPRECIATION, BOOKED ACCUMULATED DEPRECIATION
 AND CALCULATION OF ANNUAL TRUE-UP PROVISION AS OF DECEMBER 31, 2002
 CAPP - NGTL - 4 TRUNCATION AT 2023

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST AT DECEMBER 31, 2002 (3)	CALCULATED ACCRUED DEPRECIATION (4)	BOOKED ACCUMULATED DEPRECIATION (5)	ACCUMULATED DEPRECIATION VARIANCE (6)=(4)-(5)	COMPOSITE REMAINING LIFE (7)	ANNUAL TRUE-UP (8)=(6)/(7)
4842	AIRCRAFT	2,596,773.81		1,151,469			
	AFUDC	128,310.33		13,468			
	TOTAL PLANT NOT STUDIED	24,982,414.58		991,816			
	TOTAL NGTL PLANT	<u>7,340,122,277.19</u>		<u>2,471,228,737</u>			

NOVA GAS TRANSMISSION LTD
 TABLE 3A. CALCULATION OF THE WEIGHTED NET SALVAGE PERCENTAGES APPLICABLE
 TO DEPRECIABLE METER STATIONS, PIPELINE, AND COMPRESSION FACILITIES
 CAPP - NGTL - 4 TRUNCATION SET AT 2023

Account	Original Cost 12/31/2002(*)	Forecast 12/31/2023	Interim Retirement	Weighting	salvage %	weighted salvage %
4610	20,844,708.03	19,449,778	1,394,930	0.06692	-	-
4611	265,143.21	127,371	137,772	0.519615	-	-
4612	868,287.75	548,092	320,196	0.368767	-	-
4620	166,903,893.33	40,676,690	126,227,203	0.756287	(20.0)	(15.1)
4621	46,741,022.11	14,234,111	32,506,911	0.695469	(75.0)	(52.2)
4630	21,005,878.78	9,439,434	11,566,445	0.550629	(15.0)	(8.3)
4631	7,297,823.57	3,289,906	4,007,918	0.549194	(50.0)	(27.5)
4651	2,868,851,292.21	2,676,423,850	192,427,442	0.067075	(10.0)	(0.7)
4652	203,188,321.67	177,461,627	25,726,695	0.126615	(10.0)	(1.3)
4661	720,377,656.02	129,554,497	590,823,159	0.820158	5.0	4.1
4662	414,916,771.88	93,220,246	321,696,526	0.775328	(10.0)	(7.8)
4663	28,777,806.60	8,073,592	20,704,214	0.719451	(5.0)	(3.6)
4664	94,312,300.58	18,682,885	75,629,416	0.801904	-	-
4665	42,003,038.93	8,258,270	33,744,769	0.803389	-	-
4670	16,756,572.91	8,728,027	8,028,546	0.479128	-	-
4671	24,448,738.02	13,722,159	10,726,579	0.438738	-	-
4672	88,557,054.73	39,295,712	49,261,343	0.556267	(10.0)	(5.6)
4673	14,008,002.76	6,718,795	7,289,208	0.52036	-	-

(*) Depreciable Assets only

CAPP-NGTL-005(a)

[REVISED February 2004](#)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study

Request:

Please provide all the data underlying all the figures in the supply study.

Response:

Please refer to Attachment CAPP-NGTL-005(a), [which has been revised as per the February 2004 Update](#).

FIGURE 3-1

Gas Yr	Connections	Production Growth (Bcf/d/yr)
1990	2660	0.1
1991	2320	0.71
1992	1827	1.01
1993	2673	1.28
1994	5920	0.96
1995	4590	0.87
1996	4114	0.42
1997	5120	0.49
1998	6205	0.27
1999	7770	0.54
2000	10748	-0.01
2001	12658	0.5
2002	10327	-0.11
2003*	12428	-0.4

*estimate

FIGURE 3-2 WCSB Conventional
 Volumes in Bcf/d Revised

	High (300 Tcf)	Base (275 Tcf)	Low (250 Tcf)	NEB TV	NEB SP
1980		7.0			
1981		6.9			
1982		7.0			
1983		6.7			
1984		7.3			
1985		8.0			
1986		7.2			
1987		7.9			
1988		9.1			
1989		9.8			
1990		9.9			
1991		10.7			
1992		11.7			
1993		13.1			
1994		14.1			
1995		14.7			
1996		15.4			
1997		15.6			
1998		16.0			
1999		16.5			
2000	16.4	16.5	16.4	16.6	16.6
2001	16.9	16.9	16.9	16.7	16.7
2002	16.8	16.8	16.8	16.5	16.5
2003	16.9	16.6	16.3	16.0	16.0
2004	17.3	16.8	16.0	16.1	16.0
2005	17.7	16.9	15.8	16.1	16.1
2006	18.1	17.0	15.5	16.2	16.3
2007	18.3	17.1	15.0	16.3 <u>16.2</u>	16.5
2008	18.7	17.2	14.7	16.0 <u>15.9</u>	16.3
2009	18.9	17.2	14.4	15.6 <u>15.4</u>	15.9
2010	19.0	17.1	14.1	15.2 <u>14.9</u>	15.2
2011	19.0	17.1	13.7	14.9 <u>14.6</u>	14.6
2012	19.0	17.2	13.1	14.6 <u>14.1</u>	13.8
2013	19.1	17.2	12.6	14.2 <u>13.5</u>	12.9
2014	18.9	16.6	12.0	13.9 <u>13.1</u>	11.8
2015	18.5	15.9	11.4	13.6 <u>12.7</u>	10.9
2016	17.9	15.4	10.7	13.3 <u>12.3</u>	10.1
2017	17.3	14.6	10.0	13.0 <u>11.9</u>	9.3
2018	16.7	13.7	9.3	12.8 <u>11.6</u>	8.6
2019	16.0	12.6	8.6	12.5 <u>11.2</u>	8.0
2020	14.9	11.4	7.7	12.1 <u>10.8</u>	7.4 8.0
2021	13.6	10.1	6.9	11.9 <u>10.5</u>	6.9 7.4
2022	12.3	8.9	6.1	11.4 <u>10.0</u>	6.9
2023	11.3	8.0	5.7	10.9 <u>9.5</u>	6.5
2024	10.2	7.0	5.2	10.6 <u>9.1</u>	6.2
2025	9.2	6.4	4.7	10.3 <u>8.8</u>	5.9
2026	8.3	5.7	4.3		
2027	7.5	5.2	3.9		
2028	6.0	4.7	2.7		
2029	4.5	4.2	2.1		
2030	3.0	3.8	1.5		

Alberta Conventional Marketable Gas Production

FIGURE 3-3 VOLUMES IN Bcf/d

	EUB	NGTL
1991	8.7	
1992	9.7	
1993	10.8	
1994	11.3	
1995	12.2	
1996	12.7	
1997	12.9	
1998	13.3	
1999	13.6	
2000	13.6	
2001	13.8	13.8
2002	13.3	13.4
2003	13.5	13.1
2004	13.4	13.2
2005	13.2	13.0
2006	13.0	13.0
2007	12.7	13.0
2008	12.4	13.0
2009	12.1	12.9
2010	11.9	12.8
2011	11.6	12.7
2012	11.3	12.7

WCSB Gas Production Forecast

FIGURE 4-1 VOLUMES IN Bcf/d

	Conventional	Unconventional
1980	7.0	
1981	6.9	
1982	7.0	
1983	6.7	
1984	7.3	
1985	8.0	
1986	7.2	
1987	7.9	
1988	9.1	
1989	9.8	
1990	9.9	
1991	10.7	
1992	11.7	
1993	13.1	
1994	14.1	
1995	14.7	
1996	15.4	
1997	15.6	
1998	16.0	
1999	16.5	
2000	16.5	
2001	16.9	
2002	16.8	
2003	16.6	
2004	16.8	0.1
2005	16.9	0.2
2006	17.0	0.2
2007	17.1	0.3
2008	17.2	0.5
2009	17.2	0.6
2010	17.1	0.8
2011	17.1	1.0
2012	17.2	1.3
2013	17.2	1.7
2014	16.6	2.2
2015	15.9	2.6
2016	15.4	2.9
2017	14.6	3.3
2018	13.7	3.5
2019	12.6	3.7
2020	11.4	3.9
2021	10.1	4.0
2022	8.9	4.1
2023	8.0	4.3
2024	7.0	4.3
2025	6.4	4.3
2026	5.7	4.3
2027	5.2	4.3
2028	5.0	4.3
2029	4.5	4.3
2030	3.9	4.3

Unconventional Gas

FIGURE 4-2 Volumes in Bcf/d Revised

	NGTL (Base)	NGTL (Low)	NEB (SP)	NEB (TV)
2003	0.0	0.0 <u>0.000</u>	0.0	0.0
2004	0.1	0.0 <u>0.015</u>	0.0	0.0
2005	0.2	0.0 <u>0.030</u>	0.0	0.0
2006	0.2	0.0 <u>0.045</u>	0.1	0.1
2007	0.3	0.0 <u>0.06</u>	0.2	0.2
2008	0.5	0.0 <u>0.09</u>	0.3	0.5
2009	0.6	0.1 <u>0.12</u>	0.5	0.8
2010	0.8	0.1 <u>0.16</u>	0.7	1.0
2011	1.0	0.1 <u>0.21</u>	0.9	1.2
2012	1.3	0.2 <u>0.29</u>	1.0	1.5
2013	1.7	0.2 <u>0.38</u>	1.2	1.8
2014	2.2	0.3 <u>0.49</u>	1.3	2.1
2015	2.6	0.4 <u>0.62</u>	1.4	2.3
2016	2.9	0.5 <u>0.69</u>	1.5	2.5
2017	3.3	0.6 <u>0.79</u>	1.6	2.7
2018	3.5	0.7 <u>0.89</u>	1.7	2.9
2019	3.7	0.8 <u>0.98</u>	1.8	3.0
2020	3.9	0.9 <u>1.08</u>	1.9	3.2
2021	4.0	1.0 <u>1.17</u>	2.0	3.3
2022	4.1	1.1 <u>1.23</u>	2.1	3.5
2023	4.3	1.2 <u>1.28</u>	2.1	3.6
2024	4.3	1.2 <u>1.34</u>	2.2	3.7
2025	4.3	1.3 <u>1.4</u>	2.3	3.8
2026	4.3	1.3 <u>1.4</u>		
2027	4.3	1.4		
2028	4.3	1.4		
2029	4.3	1.4		
2030	4.3	1.4		

NGTL Alberta System Gas Supply Forecast

FIGURE 5-1 VOLUMES IN Bcf/d

	Conventional	Unconventional	Northern	NEB SP	Conventional	EUB Based	Conventional
2002	11.3	0.0			11.0		11.3
2003	11.2	0.0			10.4		11.2
2004	11.1	0.0			10.4		11.1
2005	11.0	0.1			10.4		11.0
2006	11.1	0.1			10.5		11.2
2007	11.3	0.2			10.7		11.0
2008	11.4	0.3			10.6		10.9
2009	11.4	0.4	1.0		10.2		10.7
2010	11.2	0.6	1.1		9.7		10.5
2011	11.3	0.8	1.2		9.2		10.4
2012	11.3	1.0	1.3		8.6		10.0
2013	11.3	1.4	1.5		7.9		
2014	10.8	1.7	1.5		7.1		
2015	10.1	2.1	1.5		6.4		
2016	9.5	2.3	1.5		5.7		
2017	9.1	2.6	1.5		5.1		
2018	8.2	2.7	1.5		4.5		
2019	7.4	2.8	1.5		4.0		
2020	7.1	2.9	1.5		3.6		
2021	6.6	2.9	1.5		3.3		
2022	6.0	3.0	1.5		3.6		
2023	5.1	3.0	1.5		3.4		
2024	4.4	3.0	1.5		3.4		
2025	3.6	3.0	1.5		3.3		
2026	3.2	3.0	1.5				
2027	3.0	3.1	1.5				
2028	2.3	3.1	1.5				
2029	1.8	3.1	1.5				
2030	1.3	3.1	1.5				

Alberta System Conventional Supply Forecast by Quadrant

FIGURE 5-2 VOLUMES IN Bcf/d

	NW	NE	SW	SE
2002	4.2	1.2	3.5	2.4
2003	4.0	1.1	3.5	2.6
2004	4.0	1.0	3.5	2.5
2005	4.1	1.0	3.4	2.5
2006	4.3	0.9	3.4	2.6
2007	4.5	0.8	3.3	2.6
2008	4.7	0.8	3.4	2.5
2009	4.9	0.7	3.4	2.4
2010	4.9	0.7	3.4	2.3
2011	4.9	0.7	3.5	2.2
2012	4.9	0.7	3.5	2.2
2013	4.9	0.8	3.5	2.1
2014	4.8	0.7	3.4	1.9
2015	4.7	0.7	3.0	1.8
2016	4.3	0.7	2.7	1.8
2017	4.1	0.7	2.5	1.7
2018	3.8	0.7	2.2	1.6
2019	3.5	0.6	1.9	1.4
2020	3.3	0.5	2.0	1.3
2021	2.9	0.5	2.0	1.2
2022	2.5	0.4	1.9	1.1
2023	2.1	0.4	1.7	0.9
2024	1.8	0.3	1.5	0.8
2025	1.5	0.2	1.2	0.7
2026	1.3	0.2	1.1	0.6
2027	1.3	0.1	1.0	0.6
2028	1.0	0.0	0.9	0.4
2029	0.5	0.0	0.8	0.5
2030	0.3	0.0	0.6	0.4

Estimate of WCSB Ultimate Potential

FIGURE 6-1

year	Ultimate Potential Resource (Tcf)
1955	78
1964	118
1973	128
1979	157
1983	205
1985	199
1987	301
1992	270
1993	288
1994	350
1995	303
1997	263
1998	273
1999	279
2001	249
2002	275

Supply Costs

FIGURE 6-2

Supply Cost (2002 Cdn\$/Mcf)	EUB '96 adj '02 (Alberta) Tcf	NGTL '02 (Alberta) Tcf
0.00	0.0	0.0
0.54	6.9	11.9
1.07	16.7	23.4
1.61	26.6	35.0
2.15	33.8	46.8
2.68	37.8	49.9
3.22	40.7	51.3
3.76	42.8	52.3
4.30	44.7	53.9
4.83	45.8	54.4
5.37	46.6	55.9
5.91	47.4	56.7
6.44	48.1	57.9
6.98	48.7	58.5
7.52	49.1	60.1
8.05	49.4	61.0
8.59	49.9	62.0
9.13	50.2	63.4
9.67	50.7	64.7
10.20	51.0	65.8
10.74	51.5	66.8
11.28	51.8	66.9

FIGURE 6-3

	Price Forecast (2002 Cdn\$/GJ)
1995	\$1.42
1996	\$1.73
1997	\$2.05
1998	\$2.00
1999	\$2.49
2000	\$4.45
2001	\$5.18
2002	\$3.70
2003	\$6.60
2004	\$5.45
2005	\$4.61
2006	\$4.11
2007	\$4.14
2008	\$4.17
2009	\$4.19
2010	\$4.21
2011	\$4.23
2012	\$4.24
2013	\$4.25
2014	\$4.30
2015	\$4.34
2016	\$4.34
2017	\$4.34
2018	\$4.34
2019	\$4.34
2020	\$4.34
2021	\$4.34
2022	\$4.34
2023	\$4.34
2024	\$4.34
2025	\$4.34

Oil Sands Projects Gas Intensity

FIGURE 9-1 VOLUMES IN Bcf/d

	Insitu Bitumen	Mined SCO	Gas Demand	Gas Intensity
2003	0.27	0.55	0.68	0.83
2004	0.35	0.63	0.78	0.80
2005	0.42	0.71	0.95	0.85
2006	0.51	0.73	1.08	0.87
2007	0.59	0.73	1.19	0.91
2008	0.72	0.82	1.33	0.86
2009	0.77	0.90	1.45	0.87
2010	0.84	0.89	1.52	0.88
2011	0.90	1.02	1.67	0.87
2012	0.93	1.09	1.74	0.86
2013	0.94	1.09	1.74	0.86
2014	0.94	1.19	1.80	0.85
2015	0.94	1.26	1.83	0.83
2016	0.95	1.29	1.84	0.82
2017	0.97	1.32	1.86	0.81
2018	0.98	1.36	1.87	0.80
2019	1.00	1.39	1.88	0.79
2020	1.01	1.42	1.90	0.78
2021	1.03	1.46	1.91	0.77
2022	1.05	1.49	1.92	0.76
2023	1.06	1.53	1.94	0.75
2024	1.08	1.56	1.95	0.74
2025	1.10	1.60	1.96	0.73
2026	1.12	1.64	1.97	0.72
2027	1.14	1.68	1.98	0.71

Western Canada Demand

FIGURE 9-2 VOLUMES IN Bcf/d

	Pipeline		Industrial	Total
	Fuel	Core	plus EG	Demand
2003	0.32	1.09	3.12	4.53
2004	0.33	1.18	3.42	4.93
2005	0.35	1.19	3.70	5.24
2006	0.36	1.20	3.88	5.43
2007	0.36	1.21	4.05	5.62
2008	0.36	1.22	4.29	5.87
2009	0.41	1.23	4.54	6.18
2010	0.41	1.24	4.69	6.35
2011	0.42	1.25	4.89	6.56
2012	0.42	1.26	4.98	6.66
2013	0.42	1.27	5.06	6.75
2014	0.43	1.29	5.13	6.85
2015	0.43	1.30	5.24	6.97
2016	0.43	1.31	5.30	7.04
2017	0.43	1.32	5.39	7.14
2018	0.43	1.33	5.42	7.19
2019	0.43	1.35	5.53	7.30
2020	0.43	1.36	5.57	7.36
2021	0.39	1.37	5.55	7.31
2022	0.36	1.37	5.51	7.24
2023	0.33	1.38	5.49	7.20
2024	0.30	1.39	5.47	7.15
2025	0.28	1.39	5.45	7.12
2026	0.26	1.40	5.44	7.09
2027	0.24	1.41	5.43	7.07

FIGURE 9-3 VOLUMES IN Bcf/d

Intra-Alberta Deliveries	
2002	1.5
2003	1.7
2004	2.0
2005	2.2
2006	2.3
2007	2.4
2008	2.6
2009	2.8
2010	2.9
2011	3.1
2012	3.1
2013	3.2
2014	3.2
2015	3.3
2016	3.3
2017	3.4
2018	3.6
2019	3.7
2020	3.8
2021	4.0
2022	4.1
2023	4.3
2024	4.4
2025	4.6
2026	4.7
2027	4.8

CAPP-NGTL-005(b)

REVISED February 2004

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study

Request:

Does NGTL have a “with Alaska” case. If so, please provide it for the WCSB and also for the Alberta system for the forecast period. If not, please provide a “with Alaska” case. Please provide all data associated with such a case.

Response:

NGTL believes that Alaskan gas is too speculative, at this time, to be included in forecasts of future flows on the Alberta System. ~~Nevertheless, in order to be responsive to information requests, NGTL will file the Alaska in case as soon as it is completed.~~

NGTL has completed a “with Alaska” Supply and Throughput case and is including the data in the February 2004 Update. Please refer to the revised responses to CAPP-NGTL-005(c) and CAPP-NGTL-005(d) for details of the “with Alaska” case.

Alaskan gas is assumed to flow on a “new” pipeline, NGTL and Alliance. Excess capacity on the Alberta System is assumed to be utilized and the remaining Alaskan gas is allocated to a “new” pipeline and Alliance.

CAPP-NGTL-005(c)

[REVISED February 2004](#)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study

Request:

Please show for the base case, low case, high case, and “with Alaska” case the Alberta system intra-Alberta receipts by quadrant, ex-Alberta receipts by quadrant, intra-Alberta deliveries by quadrant, and ex-Alberta deliveries by export delivery point. (If any part of this cannot be provided, please explain and provide alternative data in the form that is developed by NGTL in its supply analysis). Please provide all data.

Response:

Please refer to Attachments 1 to 3 CAPP-NGTL-005(c) for the base and low case information. [Please refer to Attachment 4 CAPP-NGTL-005\(c\) for the “with Alaska” case information.](#) NGTL has not completed a high case ~~and a “with Alaska” case~~ for the Alberta System. NGTL will provide ~~them when completed~~ [the high case as soon as possible.](#)

Base Case Ex-Alberta Deliveries

VOLUMES IN Bcf/d

	Empress	McNeill	Alberta/B.C.	Cold Lake	Unity	Alberta/Montana	Gordondale	Boundary Lake	Total Ex-Alberta
2002	5.7	2.1	2.1	0.03	0.01	0.0	0.0	0.0	10.0
2003	5.5	2.1	1.9	0.03	0.01	0.0	0.0	0.0	9.5
2004	4.9	2.0	2.1	0.03	0.01	0.0	0.0	0.0	9.0
2005	4.5	1.9	2.3	0.03	0.01	0.0	0.0	0.0	8.8
2006	4.4	2.1	2.4	0.03	0.01	0.0	0.0	0.0	9.0
2007	4.4	2.0	2.5	0.03	0.01	0.0	0.0	0.0	9.0
2008	4.4	2.0	2.6	0.04	0.01	0.0	0.0	0.0	9.1
2009	5.0	2.1	2.8	0.04	0.01	0.0	0.0	0.0	10.0
2010	5.0	2.1	2.9	0.04	0.01	0.0	0.0	0.0	10.0
2011	5.1	2.1	2.9	0.04	0.01	0.0	0.0	0.0	10.1
2012	5.3	2.0	3.1	0.04	0.01	0.0	0.0	0.0	10.4
2013	5.5	2.0	3.3	0.05	0.01	0.0	0.0	0.0	10.9
2014	5.3	1.9	3.3	0.05	0.01	0.0	0.0	0.0	10.6
2015	5.3	1.8	3.2	0.05	0.02	0.0	0.0	0.0	10.3
2016	5.1	1.7	3.0	0.05	0.02	0.0	0.0	0.0	9.9
2017	4.9	1.7	3.0	0.06	0.02	0.0	0.0	0.0	9.6
2018	4.5	1.5	2.8	0.06	0.02	0.0	0.0	0.0	8.8
2019	3.9	1.3	2.5	0.06	0.02	0.0	0.0	0.0	7.9
2020	3.6	1.2	2.4	0.06	0.02	0.0	0.3	0.0	7.6
2021	3.3	1.1	2.3	0.07	0.02	0.0	0.3	0.0	7.1
2022	2.9	1.0	2.1	0.07	0.02	0.0	0.3	0.0	6.3
2023	2.4	0.8	1.9	0.08	0.02	0.0	0.3	0.0	5.4
2024	1.8	0.6	1.6	0.08	0.02	0.0	0.4	0.0	4.5
2025	1.3	0.4	1.4	0.08	0.02	0.0	0.4	0.0	3.5
2026	0.9	0.3	1.2	0.09	0.03	0.0	0.5	0.0	3.0
2027	0.8	0.2	1.2	0.09	0.03	0.0	0.6	0.0	2.9

Low Case Ex-Alberta Deliveries

VOLUMES IN Bcf/d

	Empress	McNeill	Alberta/B.C.	Cold Lake	Unity	Alberta/Montana	Gordondale	Boundary Lake	Total	Ex-Alberta
2002	5.7	2.1	2.1	0.03	0.01	0.0	0.0	0.0	10.0	
2003	5.2	2.1	1.8	0.03	0.01	0.0	0.0	0.0	9.2	
2004	4.3	1.9	2.1	0.03	0.01	0.0	0.0	0.0	8.3	
2005	3.9	1.6	2.3	0.03	0.01	0.0	0.0	0.0	7.8	
2006	3.6	1.7	2.1	0.03	0.01	0.0	0.0	0.0	7.5	
2007	3.4	1.3	2.2	0.03	0.01	0.0	0.0	0.0	7.0	
2008	3.1	1.1	2.3	0.04	0.01	0.0	0.0	0.0	6.6	
2009	3.2	1.3	2.4	0.04	0.01	0.0	0.0	0.0	6.9	
2010	3.0	1.0	2.4	0.04	0.01	0.0	0.0	0.0	6.5	
2011	3.1	0.6	2.3	0.04	0.01	0.0	0.0	0.0	6.0	
2012	2.9	0.4	2.0	0.04	0.01	0.0	0.0	0.0	5.4	
2013	2.7	0.2	2.0	0.05	0.01	0.0	0.0	0.0	5.0	
2014	2.4	0.2	1.7	0.05	0.01	0.0	0.0	0.0	4.4	
2015	1.8	0.1	1.7	0.05	0.02	0.0	0.0	0.0	3.7	
2016	1.4	0.0	1.8	0.05	0.02	0.0	0.0	0.0	3.3	
2017	1.0	0.0	1.7	0.06	0.02	0.0	0.1	0.0	2.8	
2018	0.5	0.0	1.5	0.06	0.02	0.0	0.2	0.0	2.2	
2019	0.1	0.0	1.3	0.06	0.02	0.0	0.3	0.0	1.7	
2020	0.0	0.0	1.1	0.06	0.02	0.0	0.2	0.0	1.4	
2021	0.0	0.0	1.0	0.07	0.02	0.0	0.0	0.0	1.1	
2022	0.0	0.0	0.9	0.07	0.02	0.0	0.0	0.0	0.9	
2023	0.0	0.0	0.7	0.08	0.02	0.0	0.0	0.0	0.8	
2024	0.0	0.0	0.6	0.08	0.02	0.0	0.0	0.0	0.7	
2025	0.0	0.0	0.5	0.08	0.02	0.0	0.0	0.0	0.6	
2026	0.0	0.0	0.4	0.09	0.03	0.0	0.0	0.0	0.5	
2027	0.0	0.0	0.3	0.09	0.03	0.0	0.0	0.0	0.4	

Base Case Intra-Alberta Deliveries

	VOLUMES IN Bcf/d			
	NW	NE	SW	SE
2002	0.1	0.5	0.4	0.6
2003	0.1	0.7	0.4	0.6
2004	0.1	0.8	0.4	0.7
2005	0.1	1.0	0.4	0.7
2006	0.1	1.1	0.4	0.7
2007	0.1	1.2	0.4	0.7
2008	0.1	1.3	0.4	0.7
2009	0.1	1.4	0.4	0.8
2010	0.1	1.5	0.4	0.8
2011	0.1	1.7	0.4	0.9
2012	0.1	1.8	0.4	0.8
2013	0.1	1.8	0.4	0.9
2014	0.1	1.8	0.4	0.9
2015	0.1	1.9	0.4	0.9
2016	0.1	1.9	0.4	0.9
2017	0.1	1.9	0.4	1.0
2018	0.1	1.9	0.5	1.1
2019	0.1	1.9	0.7	1.1
2020	0.1	1.9	0.7	1.1
2021	0.1	1.9	0.8	1.1
2022	0.1	1.9	0.9	1.3
2023	0.1	1.9	0.9	1.4
2024	0.1	1.9	0.9	1.5
2025	0.1	1.9	0.9	1.7
2026	0.1	1.9	0.9	1.8
2027	0.1	1.9	0.9	1.9

Low Case Intra-Alberta Deliveries
VOLUMES IN Bcf/d

	NE	NW	SE	SW
2002	0.5	0.1	0.6	0.4
2003	0.6	0.1	0.6	0.3
2004	0.8	0.1	0.6	0.4
2005	0.9	0.1	0.6	0.4
2006	1.0	0.1	0.6	0.4
2007	1.1	0.1	0.6	0.4
2008	1.3	0.1	0.6	0.4
2009	1.4	0.1	0.7	0.4
2010	1.5	0.1	0.7	0.4
2011	1.6	0.1	0.7	0.4
2012	1.7	0.1	0.7	0.4
2013	1.7	0.1	0.6	0.4
2014	1.8	0.1	0.7	0.3
2015	1.8	0.1	0.7	0.3
2016	1.8	0.1	0.7	0.3
2017	1.9	0.1	0.8	0.3
2018	1.9	0.1	0.9	0.4
2019	1.9	0.1	0.8	0.6
2020	1.9	0.1	0.9	0.6
2021	1.9	0.1	0.9	0.6
2022	1.9	0.1	0.9	0.6
2023	1.8	0.1	0.8	0.6
2024	1.6	0.1	0.8	0.7
2025	1.5	0.1	0.8	0.7
2026	1.4	0.1	0.9	0.7
2027	1.2	0.1	0.9	0.7

Receipt Forecast Base Case Volume in Bcf/d

	SW	SE	NW	NE	BC	total
2002	3.5	2.5	3.0	1.2	1.0	11.3
2003	3.7	2.6	2.9	1.1	0.9	11.2
2004	3.7	2.5	3.0	1.0	0.9	11.1
2005	3.6	2.5	3.0	1.0	1.0	11.1
2006	3.6	2.6	3.0	0.9	1.2	11.3
2007	3.5	2.7	3.2	0.9	1.3	11.5
2008	3.7	2.5	3.3	0.8	1.5	11.7
2009	3.8	2.5	3.3	0.7	1.6	11.8
2010	3.9	2.3	3.2	0.7	1.7	11.8
2011	4.1	2.3	3.3	0.7	1.8	12.0
2012	4.2	2.3	3.4	0.7	1.6	12.3
2013	4.4	2.2	3.7	0.8	1.6	12.6
2014	4.4	2.1	3.7	0.7	1.5	12.5
2015	4.2	2.0	3.8	0.7	1.5	12.2
2016	4.1	2.0	3.7	0.7	1.3	11.8
2017	4.0	2.0	3.7	0.7	1.2	11.6
2018	3.8	1.9	3.6	0.7	1.0	10.9
2019	3.6	1.7	3.4	0.7	0.8	10.2
2020	3.8	1.6	3.3	0.6	0.7	10.0
2021	3.8	1.5	3.0	0.5	0.7	9.6
2022	3.7	1.4	2.6	0.5	0.7	9.0
2023	3.5	1.3	2.2	0.4	0.7	8.2
2024	3.3	1.1	1.9	0.4	0.7	7.4
2025	3.1	1.0	1.5	0.3	0.6	6.6
2026	2.9	1.0	1.5	0.2	0.6	6.2
2027	2.9	1.0	1.5	0.2	0.6	6.1

Notes:

Mackenzie Delta gas is only conventional, and not included in any of the above quadrants.

Receipt Forecast Low Case		Volume in Bcf/d				
	NW	NE	SW	SE	BC	Total
2002	3.1	1.3	3.8	2.5	1.1	11.7
2003	2.9	1.1	3.6	2.5	0.9	10.9
2004	2.8	1.0	3.5	2.3	0.8	10.3
2005	2.7	0.9	3.3	2.2	0.8	9.9
2006	2.5	0.8	3.2	2.3	0.8	9.7
2007	2.5	0.7	3.0	2.3	0.9	9.3
2008	2.4	0.7	3.0	2.1	0.9	9.0
2009	2.3	0.6	3.0	2.0	0.9	8.7
2010	2.1	0.6	2.9	1.9	0.9	8.3
2011	2.0	0.6	2.9	1.8	0.8	8.1
2012	1.9	0.5	2.7	1.6	0.7	7.5
2013	1.8	0.5	2.6	1.5	0.6	7.0
2014	1.8	0.5	2.4	1.3	0.5	6.5
2015	1.6	0.5	2.2	1.2	0.3	5.8
2016	1.5	0.4	2.1	1.1	0.3	5.4
2017	1.4	0.4	2.0	1.0	0.2	5.0
2018	1.3	0.3	1.9	0.9	0.2	4.6
2019	1.1	0.3	1.8	0.9	0.2	4.3
2020	1.0	0.3	1.7	0.8	0.2	4.0
2021	1.0	0.2	1.6	0.8	0.2	3.8
2022	0.9	0.2	1.5	0.7	0.1	3.5
2023	0.8	0.3	1.4	0.7	0.1	3.3
2024	0.8	0.2	1.3	0.7	0.1	3.1
2025	0.7	0.2	1.3	0.6	0.1	3.0
2026	0.6	0.2	1.4	0.6	0.1	2.8
2027	0.5	0.2	1.3	0.5	0.1	2.6

Notes:

Mackenzie Delta gas is only conventional, and not included in any of the above quadrants.

NGTL With Alaska Case Ex-Alberta Deliveries

VOLUMES IN Bcf/d

	Empress	McNeill	Alberta/B.C.	Cold Lake	Unity	Alberta/Montana	Gordondale	Boundary Lake	Total	Ex-Alberta
2002	5.7	2.1	2.1	0.03	0.01	0.0	0.0	0.0	10.0	10.0
2003	5.5	2.1	1.8	0.03	0.01	0.0	0.0	0.0	9.4	9.4
2004	4.7	1.9	2.4	0.03	0.01	0.0	0.0	0.0	9.0	9.0
2005	4.5	2.0	2.4	0.03	0.01	0.0	0.0	0.0	8.9	8.9
2006	4.3	2.1	2.5	0.03	0.01	0.0	0.0	0.0	9.0	9.0
2007	4.4	2.1	2.5	0.03	0.01	0.0	0.0	0.0	9.0	9.0
2008	4.3	2.1	2.7	0.04	0.01	0.0	0.0	0.0	9.1	9.1
2009	5.0	2.1	2.9	0.04	0.01	0.0	0.0	0.0	10.0	10.0
2010	5.0	2.1	2.9	0.04	0.01	0.0	0.0	0.0	10.0	10.0
2011	5.1	2.1	2.8	0.04	0.01	0.0	0.0	0.0	10.0	10.0
2012	5.8	2.2	3.3	0.04	0.01	0.0	0.0	0.0	11.4	11.4
2013	5.9	2.2	3.6	0.05	0.01	0.0	0.0	0.0	11.7	11.7
2014	5.9	2.1	3.6	0.05	0.01	0.0	0.0	0.0	11.6	11.6
2015	6.1	2.1	3.5	0.05	0.02	0.0	0.0	0.0	11.8	11.8
2016	6.2	2.1	3.5	0.05	0.02	0.0	0.0	0.0	11.8	11.8
2017	5.9	2.1	3.4	0.06	0.02	0.0	0.0	0.0	11.5	11.5
2018	5.7	2.0	3.3	0.06	0.02	0.0	0.0	0.0	11.2	11.2
2019	5.2	1.8	3.1	0.06	0.02	0.0	0.0	0.0	10.2	10.2
2020	4.8	1.7	2.9	0.06	0.02	0.0	0.3	0.0	9.7	9.7
2021	4.4	1.5	2.8	0.07	0.02	0.0	0.4	0.0	9.1	9.1
2022	4.0	1.4	2.6	0.07	0.02	0.0	0.3	0.0	8.3	8.3
2023	3.5	1.2	2.4	0.08	0.02	0.0	0.3	0.0	7.4	7.4
2024	3.0	1.0	2.1	0.08	0.02	0.0	0.4	0.0	6.6	6.6
2025	2.4	0.8	1.9	0.08	0.03	0.0	0.4	0.0	5.7	5.7
2026	2.0	0.7	1.7	0.09	0.03	0.0	0.5	0.0	5.0	5.0
2027	1.8	0.6	1.6	0.09	0.03	0.0	0.5	0.0	4.7	4.7

NGTL With Alaska Case Intra-Alberta Deliveries

VOLUMES IN Bcf/d

	NW	NE	SW	SE
2002	0.1	0.5	0.4	0.6
2003	0.1	0.6	0.4	0.6
2004	0.1	0.8	0.4	0.7
2005	0.1	1.0	0.4	0.7
2006	0.1	1.1	0.4	0.7
2007	0.1	1.2	0.4	0.7
2008	0.1	1.3	0.4	0.7
2009	0.1	1.4	0.4	0.8
2010	0.1	1.5	0.4	0.8
2011	0.1	1.7	0.4	0.9
2012	0.1	1.8	0.5	0.8
2013	0.1	1.8	0.5	0.8
2014	0.1	1.9	0.5	0.8
2015	0.1	1.9	0.5	0.8
2016	0.1	1.9	0.5	0.8
2017	0.1	1.9	0.5	1.1
2018	0.1	1.9	0.7	1.1
2019	0.1	1.9	0.9	1.1
2020	0.1	1.9	0.9	1.1
2021	0.1	1.9	0.9	1.2
2022	0.1	1.9	0.9	1.4
2023	0.1	1.9	0.9	1.6
2024	0.1	1.9	1.0	1.7
2025	0.1	1.9	1.0	1.9
2026	0.1	1.9	1.0	2.0
2027	0.1	1.9	1.0	2.1

NGTL With Alaska Case

Attachment 4

CAPP-NGTL-005(c)

NGTL WCSB Quadrant Receipts Forecast

Page 3 of 3

February 2004

Volume in Bcf/d

	SW	SE	NW	NE	BC	total
2002	3.5	2.5	3.0	1.2	1.1	11.3
2003	3.5	2.6	2.8	1.1	0.9	11.0
2004	3.5	2.5	3.0	1.0	0.9	10.9
2005	3.4	2.5	3.0	1.0	1.0	10.9
2006	3.5	2.6	3.0	0.9	1.2	11.1
2007	3.3	2.6	3.2	0.8	1.3	11.3
2008	3.5	2.5	3.2	0.8	1.5	11.5
2009	3.6	2.5	3.2	0.7	1.6	11.6
2010	3.7	2.3	3.2	0.7	1.7	11.6
2011	3.9	2.3	3.2	0.7	1.8	11.8
2012	4.0	2.2	3.3	0.7	1.6	11.8
2013	4.1	2.1	3.4	0.7	1.6	11.8
2014	4.1	2.0	3.5	0.6	1.5	11.7
2015	4.0	1.9	3.6	0.6	1.5	11.6
2016	3.8	1.9	3.6	0.7	1.3	11.3
2017	3.8	1.9	3.7	0.7	1.2	11.4
2018	3.7	1.9	3.8	0.8	1.0	11.3
2019	3.6	1.8	3.8	0.7	0.8	10.6
2020	3.7	1.6	3.5	0.6	0.8	10.2
2021	3.8	1.6	3.2	0.5	0.7	9.7
2022	3.7	1.5	2.8	0.5	0.7	9.2
2023	3.5	1.3	2.4	0.4	0.7	8.4
2024	3.4	1.2	2.2	0.4	0.7	7.7
2025	3.1	1.1	1.9	0.3	0.6	7.0
2026	2.8	1.0	1.7	0.3	0.6	6.4
2027	2.8	0.9	1.6	0.2	0.6	6.2

Notes: Volumes include Conventional + Unconventional Gas
Mackenzie Delta & Alaska gas is only conventional, and not included in any of the above quadrants.
Please refer to the response to CAPP-NGTL-005(d) for the Delta & Alaska volumes on NGTL.

CAPP-NGTL-005(d)

[REVISED February 2004](#)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study

Request:

If not already provided, for the base case, low case, high case and “with Alaska” case please show the Alberta system gas supply and the gas supply assumed for the other pipelines serving Western Canada. Please explain the allocation procedures as among NGTL and the other pipelines and please provide all data.

Response:

NGTL develops a "bottom up" supply forecast for the Alberta System using an engineering/economic supply model as described in Section 4, Appendix A of NGTL's written evidence. A supply forecast is determined at each NGTL receipt station based on the established and undiscovered resource potential available at the individual stations as discussed below. Therefore an allocation of gas production in Alberta to ATCO and other intra-basin pipelines is not required other than at a few meter stations that are dually connected to Alliance (28 stations) and ATCO (10 stations). The Alliance and Duke pipelines are assumed to be highly utilized as both pipelines serve markets that provide high netbacks. The flows on Alliance, Duke and other pipelines are provided, for the Base and Low Cases, in Attachments 1 and 2 to CAPP-NGTL-005(d). [As per the February 2004 Update, the information is provided for the “with Alaska” case in Attachment 3 CAPP-NGTL-005\(d\).](#)

The following steps describe the process used to determine the BC/NWT supply and Alberta supply that is expected to flow on the Alberta System:

1. Established reserves and reserve additions in Alberta are assigned to the Alberta System receipt points based on a “proximity” assessment. All undiscovered potential in a township that is currently connected to the Alberta System is assigned to the Alberta System, which includes the dually connected stations.

2. The resulting supply forecast is allocated between the Alberta System and other dually connected stations in the following manner.
 - The Alliance pipeline is kept fully utilized (as per the methodology discussed later in this response).
 - ATCO stations that are dually connected are assumed to flow at rates, which are based on historical patterns.

The aggregate flows for the dually connected stations are provided for the Base and Low Cases in an attached spreadsheet.

3. The BC/NWT supply that is expected to flow on the Alberta System is based on the following:
 - The Duke pipeline is kept full.
 - Alliance is assumed to flow approximately 300 MMscf/d of B.C. supply.
 - The Alberta System is currently connected directly to B.C. supply at 18 receipt stations. A supply forecast is developed at each of these stations.
 - The remaining B.C. supply is expected to flow on the Alberta System at the Gordondale receipt point, which is used as a proxy connection point on the system.

Below is a description of how gas volumes are allocated to WCSB export pipelines.

All supply, whether sourced from the WCSB or from the North, is aggregated and then deemed to be available to meet Western Canada demand as well as flow on exporting pipelines. The specific methodology is as follows:

1. Aggregate the sources of supply in Western Canada (WCSB conventional, unconventional and in some cases Northern gas transported into Western Canada via new pipelines from the north).
2. Subtract the demand in Western Canada to yield the volume available for transport from Western Canada (exports); allocate exports among pipelines in the following order:
 - Firm transportation contracts.
 - Pipelines with highest netbacks to Western Canada.
 - Apply historical utilization factors to set upper limit of flow on each pipeline.
3. The TransCanada Mainline is the swing pipeline exporting gas from Western Canada therefore it receives the balance of gas after the addition of new capacity.

CAPP-NGTL-005(d)

REVISED February 2004

4. Estimate required pipeline capacity additions to keep overall pipeline utilization from Western Canada at or about 90% (new pipeline capacity is forecast to come into service with 15 year firm contracts).
5. Allocate any remaining export volumes to the Mainline.
6. When Western Canadian gas exports begin to decline, throughput on all pipelines not protected by long-term firm transportation contracts declines proportionally to their share of exports. Thus flows on all pipelines without contract protection decline by the same percentage from year to year.

**Base Case Dually Connected MS Allocation
 Volume in Bcf/d**

	ATCO (10 stations)	NGT at ATCO	Alliance (28 stations)	NGT at Alliance
2002	0.21	0.43	1.34	0.84
2003	0.25	0.35	1.57	0.89
2004	0.23	0.33	1.52	1.05
2005	0.23	0.32	1.52	1.13
2006	0.21	0.28	1.52	1.24
2007	0.18	0.11	1.52	1.44
2008	0.17	0.12	1.52	1.68
2009	0.18	0.13	1.53	1.78
2010	0.18	0.12	1.53	1.93
2011	0.19	0.12	1.53	2.07
2012	0.19	0.12	1.52	2.06
2013	0.20	0.11	1.52	2.16
2014	0.20	0.11	1.52	2.20
2015	0.21	0.11	1.52	2.21
2016	0.20	0.12	1.52	2.00
2017	0.20	0.12	1.52	1.91
2018	0.20	0.10	1.52	1.66
2019	0.19	0.09	1.51	1.35
2020	0.19	0.11	1.50	1.32
2021	0.19	0.10	1.50	1.27
2022	0.18	0.09	1.50	1.14
2023	0.17	0.08	1.50	1.00
2024	0.16	0.07	1.50	0.85
2025	0.15	0.06	1.50	0.66
2026	0.14	0.05	1.32	0.73
2027	0.14	0.07	1.15	0.99

**Low Case Dually Connected MS Allocation
Volume in Bcf/d**

	ATCO (10 stations)	NGT at ATCO	Alliance (28 stations)	NGT at Alliance
2002	0.21	0.43	1.35	0.84
2003	0.24	0.33	1.57	0.82
2004	0.22	0.35	1.52	0.84
2005	0.21	0.34	1.52	0.82
2006	0.20	0.27	1.53	0.85
2007	0.17	0.08	1.52	0.89
2008	0.15	0.08	1.53	0.88
2009	0.15	0.06	1.53	0.83
2010	0.16	0.06	1.53	0.72
2011	0.16	0.06	1.53	0.65
2012	0.16	0.05	1.53	0.55
2013	0.16	0.04	1.53	0.42
2014	0.15	0.04	1.53	0.30
2015	0.15	0.03	1.62	0.03
2016	0.14	0.03	1.44	0.00
2017	0.13	0.03	1.37	0.00
2018	0.12	0.03	1.32	0.00
2019	0.12	0.03	1.26	0.00
2020	0.11	0.02	1.20	0.00
2021	0.10	0.02	1.14	0.00
2022	0.10	0.02	1.08	0.00
2023	0.10	0.01	1.02	0.00
2024	0.10	0.01	0.97	0.00
2025	0.09	0.01	0.92	0.00
2026	0.08	0.01	0.86	0.03
2027	0.10	0.01	0.91	0.13

**Base Case (Conventional + Unconventional) Allocation
Volume in Bcf/d**

	NGTL	Alliance	Duke	Other*
2002	11.3	1.3	1.6	2.6
2003	11.2	1.6	1.6	2.2
2004	11.1	1.5	1.7	2.6
2005	11.1	1.5	1.8	2.7
2006	11.2	1.5	1.8	2.7
2007	11.5	1.5	1.7	2.7
2008	11.7	1.5	1.7	2.7
2009	11.8	1.5	1.8	2.8
2010	11.8	1.5	1.8	2.8
2011	12.1	1.5	1.8	2.7
2012	12.3	1.5	1.8	2.9
2013	12.7	1.5	1.8	2.9
2014	12.5	1.5	1.8	3.0
2015	12.2	1.5	1.8	3.0
2016	11.8	1.5	1.9	3.1
2017	11.7	1.5	2.0	2.8
2018	10.9	1.5	2.0	2.8
2019	10.2	1.5	2.1	2.5
2020	10.0	1.5	2.1	1.6
2021	9.5	1.5	1.9	1.2
2022	9.0	1.5	1.7	0.9
2023	8.1	1.5	1.5	1.2
2024	7.4	1.5	1.3	1.1
2025	6.7	1.5	1.2	1.3
2026	6.3	1.3	1.1	1.3
2027	6.1	1.1	1.0	1.2

* Other includes ATCO, Transgas, Alta Gas, Albersun/Simmons, City of Medicine Hat, Many Islands, Montana Power, BC Gas and producer supply to feed local demand.

**Low Case (Conventional + Unconventional) Allocation
Volume in Bcf/d**

	NGTL	Alliance	Duke	Other*
2002	11.3	1.3	1.6	2.6
2003	10.9	1.6	1.6	2.2
2004	10.2	1.5	1.7	2.6
2005	9.9	1.5	1.8	2.7
2006	9.6	1.5	1.8	2.7
2007	9.1	1.5	1.7	2.7
2008	8.8	1.5	1.7	2.7
2009	8.5	1.5	1.8	2.8
2010	8.2	1.5	1.8	2.8
2011	7.9	1.5	1.8	2.7
2012	7.2	1.5	1.8	2.9
2013	6.8	1.5	1.8	2.9
2014	6.1	1.5	1.8	3.0
2015	5.7	1.5	1.8	3.0
2016	4.9	1.5	1.9	3.1
2017	4.6	1.5	2.0	2.8
2018	3.9	1.5	2.0	2.8
2019	3.5	1.5	2.1	2.5
2020	3.5	1.5	2.1	1.6
2021	3.5	1.5	1.9	1.2
2022	3.3	1.5	1.7	0.9
2023	2.8	1.5	1.5	1.2
2024	2.6	1.5	1.3	1.1
2025	2.1	1.5	1.2	1.3
2026	2.0	1.3	1.1	1.3
2027	1.9	1.2	1.0	1.2

* Other includes ATCO, Transgas, Alta Gas, Albersun/Simmons, City of Medicine Hat, Many Islands, Montana Power, BC Gas and producer supply to feed local demand.

NGTL With Alaska Case

VOLUMES IN Bcf/d **Dually Connected MS Allocation**

	ATCO (10 stations)	NGT at ATCO	Alliance (28 stations)	NGT at Alliance
2002	0.21	0.43	1.33	0.84
2003	0.25	0.34	1.57	0.86
2004	0.23	0.33	1.52	1.03
2005	0.22	0.31	1.52	1.12
2006	0.21	0.28	1.53	1.22
2007	0.18	0.11	1.52	1.44
2008	0.17	0.12	1.53	1.67
2009	0.18	0.13	1.53	1.79
2010	0.18	0.12	1.53	1.92
2011	0.19	0.12	1.53	2.05
2012	0.19	0.11	1.53	2.00
2013	0.20	0.10	1.53	2.07
2014	0.20	0.10	1.53	2.11
2015	0.20	0.10	1.53	2.14
2016	0.20	0.11	1.43	2.02
2017	0.20	0.11	1.42	1.99
2018	0.20	0.10	1.34	1.85
2019	0.19	0.09	1.21	1.68
2020	0.19	0.11	1.16	1.63
2021	0.18	0.10	1.13	1.58
2022	0.17	0.09	1.07	1.50
2023	0.17	0.08	1.02	1.42
2024	0.16	0.07	0.98	1.36
2025	0.15	0.06	0.91	1.28
2026	0.15	0.05	0.85	1.20
2027	0.14	0.08	0.88	1.25

NGTL With Alaska Case

	VOLUMES in Bcf/d			Allocation				Other*
	NGTL WCSB	NGTL MacKenzie	NGTL Alaska	New Capacity Alaska	Alliance WCSB	Alliance Alaska	Duke	
2002	11.3	0.0	0.0	0.0	1.5	0.0	1.6	2.3
2003	11.0	0.0	0.0	0.0	1.6	0.0	1.6	2.4
2004	10.9	0.0	0.0	0.0	1.6	0.0	1.7	2.7
2005	10.9	0.0	0.0	0.0	1.6	0.0	1.8	2.8
2006	11.1	0.0	0.0	0.0	1.6	0.0	1.8	2.8
2007	11.3	0.0	0.0	0.0	1.6	0.0	1.8	2.7
2008	11.5	0.0	0.0	0.0	1.6	0.0	1.8	2.8
2009	11.6	1.0	0.0	0.0	1.6	0.0	1.8	2.7
2010	11.6	1.1	0.0	0.0	1.6	0.0	1.8	2.8
2011	11.8	1.2	0.0	0.0	1.6	0.0	1.8	2.8
2012	11.8	1.3	1.3	2.2	1.6	0.4	1.8	2.7
2013	11.8	1.5	1.4	2.4	1.6	0.4	1.8	2.8
2014	11.7	1.5	1.5	2.6	1.6	0.4	1.8	2.9
2015	11.6	1.5	1.9	2.6	1.6	0.4	1.8	2.9
2016	11.3	1.5	2.1	2.6	1.5	0.5	2.0	2.9
2017	11.4	1.5	2.1	2.6	1.5	0.5	2.0	2.8
2018	11.3	1.5	2.0	2.6	1.4	0.6	2.0	2.3
2019	10.6	1.5	1.9	2.6	1.3	0.7	2.0	2.3
2020	10.2	1.5	1.9	2.6	1.3	0.8	2.0	1.7
2021	9.7	1.5	1.9	2.6	1.3	0.8	2.0	0.9
2022	9.2	1.5	1.8	2.6	1.2	0.8	2.0	0.5
2023	8.4	1.5	1.7	2.6	1.1	0.9	2.0	0.7
2024	7.7	1.5	1.7	2.6	1.1	0.9	2.0	0.5
2025	7.0	1.5	1.6	2.6	1.0	1.0	2.0	0.7
2026	6.4	1.5	1.7	2.6	0.9	0.9	2.0	0.8
2027	6.2	1.5	1.8	2.6	1.0	0.8	2.0	0.5

Note: Volumes include conventional plus unconventional.

CAPP-NGTL-005(e)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study

Request:

Does NGTL have more than one base case? If so, please provide all alternate base cases.

Response:

No.

CAPP-NGTL-006(a) and (b)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study

Request:

- (a) What is the logical linkage between the NGTL 2003/04 Annual Plan, the supply submission by NGTL to the EUB Generic Cost of Capital Hearing and the supply submission in this application?
- (b) Which of these three was the genesis?

Response:

- (a) and (b) The annual supply/demand outlook is typically developed in the first quarter of each year. The outlook forms the basis for supply submissions in the captioned hearings, Annual Plan and regulatory applications. The supply submission to the EUB Generic Cost of Capital Hearing, the supply submission in this application and NGTL's December 2003 Annual Plan are based on the supply/demand outlook developed in 2003.

CAPP-NGTL-006(c)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study

Request:

Does this application rely on the 2003/04 Annual Plan? Are the assumptions in the 2003/04 Annual plan consistent with all assumptions in this application?

Response:

Please refer to the response to CAPP-NGTL-006(a).

CAPP-NGTL-006(d)

[REVISED February 2004](#)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study

Request:

Please provide a copy of NGTL's 2003/04 Annual Plan.

Response:

NGTL assumes CAPP is requesting a copy of the NGTL December 2003 Annual Plan. ~~The NGTL December 2003 Annual Plan is not yet available. It will be filed with the Board on December 15, 2003. NGTL will file the December 2003 Annual Plan in this proceeding at a later date.~~

The NGTL December 2003 Annual Plan is being provided on a CD-ROM to CAPP and the Board as Attachment CAPP-NGTL-006(d). The plan on CD-ROM is available to other interveners on request. The plan can also be accessed at http://www.transcanada.com/Alberta/regulatory_info/facilities

Placeholder for Attachment CAPP-NGTL-006(d)
Provided in the February 2004 Update

Provided in CD format only due to document size limitations

CAPP-NGTL-007(a)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study pages 18 - 19. Alberta System – Depreciation Study data files provided to the Board and Interveners on October 28th 2003.

Preamble:

The first reference is the relevant section of the supply study that describes the “bottom up” supply forecast methodology used for the Alberta system. The second reference is the data CD provided by NGTL that includes the Prod.dat file which contains the detailed forecast production data for each meter station. The data shows that for the meter station numbers 54 through 9992, total annual production is 3.9 Tcf (2004 – 2006 average), total cumulative production to December 31, 2002 is 104.5 Tcf, and total ultimate productive capability at each meter station is 272 Tcf.

Request:

What amount of the 272 Tcf is unconventional gas?

Response:

About 60 tcf.

CAPP-NGTL-007(b)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study pages 18 - 19. Alberta System – Depreciation Study data files provided to the Board and Interveners on October 28th 2003.

Preamble:

The first reference is the relevant section of the supply study that describes the “bottom up” supply forecast methodology used for the Alberta system. The second reference is the data CD provided by NGTL that includes the Prod.dat file which contains the detailed forecast production data for each meter station. The data shows that for the meter station numbers 54 through 9992, total annual production is 3.9 Tcf (2004 – 2006 average), total cumulative production to December 31, 2002 is 104.5 Tcf, and total ultimate productive capability at each meter station is 272 Tcf.

Request:

What amount of the 272 Tcf is Northern (i.e. McKenzie Delta) gas?

Response:

None.

CAPP-NGTL-007(c)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study pages 18 - 19. Alberta System – Depreciation Study data files provided to the Board and Interveners on October 28th 2003.

Preamble:

The first reference is the relevant section of the supply study that describes the “bottom up” supply forecast methodology used for the Alberta system. The second reference is the data CD provided by NGTL that includes the Prod.dat file which contains the detailed forecast production data for each meter station. The data shows that for the meter station numbers 54 through 9992, total annual production is 3.9 Tcf (2004 – 2006 average), total cumulative production to December 31, 2002 is 104.5 Tcf, and total ultimate productive capability at each meter station is 272 Tcf.

Request:

What amount of the 272 Tcf is B.C. gas?

Response:

19 tcf.

CAPP-NGTL-007(d)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study pages 18 - 19. Alberta System – Depreciation Study data files provided to the Board and Interveners on October 28th 2003.

Preamble:

The first reference is the relevant section of the supply study that describes the “bottom up” supply forecast methodology used for the Alberta system. The second reference is the data CD provided by NGTL that includes the Prod.dat file which contains the detailed forecast production data for each meter station. The data shows that for the meter station numbers 54 through 9992, total annual production is 3.9 Tcf (2004 – 2006 average), total cumulative production to December 31, 2002 is 104.5 Tcf, and total ultimate productive capability at each meter station is 272 Tcf.

Request:

Is the 272 Tcf already net of gas that is expected to be delivered to other pipeline systems e.g. Alliance and ATCO?

Response:

Yes.

CAPP-NGTL-007(e)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 4, Appendix A, Supply Study pages 18 - 19. Alberta System – Depreciation Study data files provided to the Board and Interveners on October 28th 2003.

Preamble:

The first reference is the relevant section of the supply study that describes the “bottom up” supply forecast methodology used for the Alberta system. The second reference is the data CD provided by NGTL that includes the Prod.dat file which contains the detailed forecast production data for each meter station. The data shows that for the meter station numbers 54 through 9992, total annual production is 3.9 Tcf (2004 – 2006 average), total cumulative production to December 31, 2002 is 104.5 Tcf, and total ultimate productive capability at each meter station is 272 Tcf.

Request:

Please explain why it might be inappropriate for truncation purposes to calculate a supply life for the Alberta system using the above referenced data and the following formula: (Total ultimate productive capability less total cumulative production) divided by total annual production.

Response:

The truncation date is the mid-point of significant retirements of depreciable assets. It is not the point where all depreciable assets will be fully depreciated, which is what the above formula estimates.

CAPP-NGTL-008(a)

Issue:

Long Term Incentive Compensation (LTIC)

Reference:

2004 General Rate Application Phase 1, Volume 1, Revenue Requirement
Sub Section 2.3.2 – Total Direct Compensation and Benefits Page 12 of 15

Preamble:

NGTL states that LTIC is tied to measures that are ultimately reflected in such measures as Total Shareholder Return and stock price. NGTL includes LTIC costs in its Revenue Requirement.

Request:

Please provide details of the LTIC program including the performance levels and targets required to be met to receive such compensation and how this compensation differs from Short Term Incentive Compensation.

Response:

TCPL's Total Direct Compensation (TDC) programs are in place to attract, motivate, and retain employees with the knowledge and experience required to operate its business in a safe, reliable, and efficient manner. Short-term and long-term incentive compensation are integral components of TDC. TCPL aligns its TDC to remain competitive with the defined competitive compensation market and to provide balanced rewards to its employees for achieving both short-term business objectives and sustaining long-term business objectives.

Long-term incentive compensation differs from short-term incentive compensation in that it is aligned to medium (up to three years) and long-term (up to seven years) business objectives. Short-term incentive compensation is provided annually based on company and individual performance. Long-term incentive compensation is paid, provided company targets are achieved, in the three to seven year timeframe.

CAPP-NGTL-008(a)

NGTL assumes that CAPP is requesting information on all of TCPL's long-term incentive programs. The following information provides a detailed description of the plans.

TransCanada Stock Option Plan

The current TransCanada stock option plan was established in 1995 and is currently in place until December 31, 2004. Executive officers, as well as other select key employees, are eligible to participate in the TransCanada Stock Option Plan.

The TransCanada Stock Option Plan is a component of the total compensation program for executives and other select key employees. The TransCanada Stock Option Plan is intended to reinforce commitment to the long-term growth and profitability of TransCanada and shareholder value. The size of the annual stock option award to individuals is determined by considering individual performance, level of responsibility, authority and overall importance to the current welfare of TransCanada, and the degree to which each individual's long-term potential and contribution will be key to the long-term success of TransCanada. The Human Resources Committee of the Board of Directors (the Committee) has flexibility in the determination of the size of the grant, the vesting date and expiry date for any options granted; and, when making its decisions, takes into account all relevant circumstances (including the value of TransCanada's stock option grants in comparison with its competitors and the number of units granted under the TransCanada ESU Plan). In the case of stock options, individuals benefit only if the market value of the stock subject to the option at the time of exercise is greater than that at the time of the award. The TransCanada Stock Option Plan is administered by the Committee. The exercise price of options is determined by the Committee at the time options are awarded and is equal to the higher of the closing price of TransCanada Common Shares on the date of the grant and the weighted average closing price of the grant. Options granted under the TransCanada Stock Option Plan up to and including the 2002 grant vest as to 25% on the date of grant and then 25% on each anniversary thereafter for a period of three years and will be eligible to be exercised until their expiry date, which is generally ten years from the date on which they were granted. Options granted under the TransCanada Stock Option Plan in 2003 will vest as to 33 1/3% on each anniversary of the date of grant for a period of three years. Such options will be eligible to be exercised until their expiry, which will generally be seven years from the date on which they were granted.

TransCanada Performance Unit Plan

No new units are being granted under the TransCanada Performance Unit Plan. Accruals on outstanding performance units, however, will continue in accordance with the plan.

Under the TransCanada Performance Unit Plan, a unit accrues annually a cash amount which is no greater than the dividends paid on a TransCanada Common Share for the

CAPP-NGTL-008(a)

preceding financial year if TransCanada's total shareholder return is equal to or greater than that of the peer group index for such financial year. If TransCanada's total shareholder return is less than that of the peer group index for such year, the Committee may award a lesser amount.

A performance unit may be redeemed for the dollar value accrued on the unit beginning on the third anniversary of the award date, the vesting date, and is deemed to be automatically redeemed on the tenth anniversary of the award date. However, at the time of exercise the market price of a TransCanada Common Share plus the amount accrued on the unit must be equal to or greater than the market price of a TransCanada Common Share on the award date of the unit, and the TransCanada Stock Option awarded on the same date as the unit must have been previously exercised provided such exercise was not prior to the unit's vesting date.

TransCanada Executive Share Unit Plan (ESU)

The TransCanada ESU Plan is an integral part of TransCanada's competitive compensation program and is performance driven in that it aligns the individual performance of TransCanada's officers, including the Named Executive Officers, with the achievement of TransCanada's financial objectives and shareholder interests. Under the TransCanada ESU Plan, individuals are eligible for an annual grant of a certain number of units as determined at the discretion of the Committee. The Committee will consider an individual's performance, level of responsibility, number of stock options granted, including the value of TransCanada's stock option grants in comparison to its competitors, and the degree to which each executive's potential and contribution will be key to the success of TransCanada in determining the size of the unit award for each individual executive officer.

At the time of a grant, each ESU unit represents one TransCanada Common Share and, during the three year vesting cycle, additional units will be accumulated in respect of any dividends paid by TransCanada on the basis that such dividends were reinvested in additional units. At the end of three years, provided that the pre-determined corporate performance criteria (as discussed below) are met, the units will vest. Upon vesting, the units held will be valued based on the current share price (a weighted average closing price on the TSX during the five trading days immediately prior to the valuation date) of the TransCanada Common Shares.

At the time of a grant, the Committee will set predetermined corporate performance criteria as a target and a threshold. If at the end of the three year term the target is achieved or exceeded, 100% of the units held will vest and, if only the threshold is achieved, 50% of the units held will vest. If the threshold is not achieved, none of the units held will vest. In the event that the threshold is exceeded but the target is not achieved, the Committee will have the discretion to determine on a *pro rata* basis the

CAPP-NGTL-008(a)

number of units that vest. For the 2003 grant, the target and threshold are measured with respect to the absolute total shareholder return (“TSR”), the relative TSR as compared to other specified comparison companies (these include Canadian and U.S. organizations with comparable business models and a sample of the S&P/TSX 60 index companies) and funds generated from operations.

Restricted Share Unit Program

The Restricted Stock Unit program is a broad-based employee equity program. Eligible employees are employees who are all permanent full and part-time employees of TCPL who are Senior Managers and below in Canada and the US.

The current RSU plan cycle is in effect from January 1, 2002, through to December 31, 2004, with the first anticipated payout in the first quarter of 2005.

An RSU “unit” is equal to the value of one share of TransCanada and reinvested dividends (additional RSUs are granted equal to any dividends paid on the company’s shares) during its term. An initial grant to allocate “units” is based on 24% (8% per year for three years) of an eligible employee’s base salaries and the TransCanada stock price at close of the quarter before the employee joins the Plan. Final awards will reflect reinvested “dividends” as more units; and actual awards will be delivered as TransCanada shares, less necessary tax withholdings.

The payout of RSU will be based on TransCanada’s Total Shareholder Return (TSR) over the three-year period.

The benefits of the RSU program to TCPL and subsequently to its customers and business partners are:

- Ability to compete with other organizations to attract and retain employees with the skills necessary to operate TCPL's business in a safe, reliable, and efficient manner.
- Focusing employees on sustaining operational efficiencies and long-term business objectives.

CAPP-NGTL-008(b)

Issue:

Long Term Incentive Compensation (LTIC)

Reference:

2004 General Rate Application Phase 1, Volume 1, Revenue Requirement
Sub Section 2.3.2 – Total Direct Compensation and Benefits Page 12 of 15

Preamble:

NGTL states that LTIC is tied to measures that are ultimately reflected in such measures as Total Shareholder Return and stock price. NGTL includes LTIC costs in its Revenue Requirement.

Request:

Please identify any changes from previous LTIC programs and the time that any changes occurred.

Response:

The following changes have occurred to TCPL's long-term incentive programs.

NOVA Stock Option Plan

In the 1995 GRA, the long-term incentive plan comprised a stock option plan through which managers were awarded options on NOVA Corporation common shares. The number of options granted each year by the Board was a function of share price and the individual's salary. This plan ceased at the time of the merger between NOVA and TransCanada, which became effective July 2, 1998, and outstanding options were converted to Key Employee Stock Option Plan (KESIP) options.

Stock Option Plan

In 1979 TransCanada established for its key employees a stock option program, which was amended and restated in April 1995 and May 1998, known as the Key Employee Stock Incentive Plan (1995) ("KESIP"). Executive officers, as well as other select key employees, are eligible to participate in KESIP.

CAPP-NGTL-008(b)

In 2002 the Human Resources Committee of the Board of Directors (the “Committee”) amended the KESIP program as follows: the life of the option will be seven years, vesting will be graduated over three years and will commence on the first anniversary of the grant date. Executives and selected key employees are eligible for the new program, which began in 2003. No new PUP units will be granted with the options.

In 2003 the plan was renamed and continued as the TransCanada Stock Option Plan.

TransCanada Performance Unit Plan (PUP)

In 1995, TransCanada established the TransCanada Performance Unit Plan which is administered by the Committee. The Named Executive Officers, as well as other select key employees, participate in the plan.

In July 2002, the Committee amended the plan to provide that no further units would be granted under the plan. Accruals on outstanding performance units, however, will continue in accordance with the plan.

TransCanada Executive Share Unit Plan (ESU)

In 2002 the ESU was developed as a medium term incentive vehicle for executives with the first grant taking place in 2003.

TransCanada Restricted Share Unit Plan (RSU)

The RSU was developed in 2001 and the current plan cycle is in effect from January 1, 2002, through to December 31, 2004.

CAPP-NGTL-009

Issue:

Incentive Compensation

Reference:

2004 General Rate Application Phase 1, Volume 1, Section 2.3, Schedule 2.3.2.1, Sheet 1 of 1.

Preamble:

NGTL states that, if results are not achieved, the incentive award (Short Term Incentive Compensation) is reduced or not paid out and that long-term incentives are not paid out, nor further costs incurred, unless there is additional value generated.

Request:

Please indicate why the forecast costs of the short-term and long-term incentive compensation should be included in rates when, if results are not achieved or there is not additional value generated, incentives are reduced or not paid out.

Response:

Short-term and long-term incentive compensation are integral components of Total Direct Compensation (TDC) at TCPL. While there is no certainty that TCPL will pay out either short-term or long-term incentive compensation, it is as prudent to budget for these payments as it is to budget for any other forecast cost. The budget is based on the best estimate of expected payment levels.

CAPP-NGTL-010(a)

Issue:

Operating Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3 – Operating Costs, page 3 of 4.

Preamble:

NGTL refers to programs and initiatives contributing to sustainable Operating Cost reductions.

Request:

For the six programs and initiatives listed on Page 4 of 4, please indicate the dollar saving in Operating Costs that occurred during 2003 associated with each of these items.

Response:

The items listed in Section 2.3, page 4 of 4, are examples of programs and initiatives that have enabled NGTL to achieve sustainable operating cost reductions since 1995. Cost savings for many of the programs and initiatives were realized in years prior to 2003; however, NGTL continues to benefit from those savings today.

Investments in business improvement initiatives are evaluated on a net present value cost benefit basis prior to approval. For practical reasons, NGTL does not track the actual financial benefits specific to each initiative on a year to year basis. Rather, benefits are tracked at an aggregate level in terms of year to year budget reductions.

Notwithstanding the above, in some cases, specific benefit data for 2003 is available and is presented below.

CAPP-NGTL-010(a)

Reliability and risk based approach to equipment maintenance:

A review of NGTL's maintenance procedures has allowed the modification of maintenance intervals and the scope of some maintenance practices, resulting in a decrease of several thousand man-hours of effort from the maintenance program. This equates to a 2003 operating cost savings of approximately \$1.0 million relative to 2002.

The development and implementation of an analytical model designed to optimize prime mover repair and overhaul intervals has resulted in a 5 year net present value reduction of approximately \$1.3 million in the Repair and Overhaul program relative to where the program would be without the use of this tool.

Implementation of a Computerized Maintenance Management System (CMMS):

The CMMS system has been in use at NGTL for approximately four years. Although a definitive number is not available regarding specific savings in 2003 related to the CMMS system, the system has been instrumental in enabling cost reductions through improved planning, scheduling and tracking of maintenance activities.

Implementation of Technologies:

The implementation of new and innovative technologies has yielded significant savings in NGTL's operating program and in other program areas such as pipeline integrity and the capital program. Examples of operating program savings include the following items.

In 2002 NGTL developed a model to aid in the determination of optimal frequencies for natural gas sampling and analysis required at over 1300 metering stations. The application of this model has enabled reduced site visitation and analysis requirements with a resulting decrease in operating costs of approximately \$1.0 million relative to 2002.

In 2000, NGTL implemented the use of a Geographic Information System which enables users to access pipeline facility data required for operational and maintenance work via the TransCanada Intranet. In 2003, several enhancements were made to the system such as the ability to generate reports and graphing directly from the system. 2003 operating cost savings and savings to the pipe integrity program are estimated at approximately \$0.2 million relative to 2002.

The application of innovative techniques to refurbish equipment components versus replacement is estimated to have reduced the annual cost of the Repair and Overhaul program by 10-15% relative to a "replace only" program. Refer to CCA-NGTL-013(e) for further details of the refurbishment program.

CAPP-NGTL-010(a)

Improvements to procurement processes:

In 2003 NGTL was successful in renegotiating contract management fees (fees paid to alliance partners to manage outsourced services). Although savings will not be realized in 2003, forecast operating cost savings for 2004 are approximately \$0.4 million.

Ongoing organizational adjustments:

Several departments underwent significant organizational restructuring in 2003. Through merging of departments, rationalization of services, improved business efficiencies and changing work scope significant reductions in staff counts were achieved in the latter part of 2003. The result is an allocated average staff count approximately 7% lower than in 2002 (refer to Schedule 2.3.2.2).

Implementation of frontline functions into a single call center:

Please refer to the response to CCA-NGTL-013(i).

CAPP-NGTL-010(b)

Issue:

Operating Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3 – Operating Costs, page 3 of 4.

Preamble:

NGTL refers to programs and initiatives contributing to sustainable Operating Cost reductions.

Request:

What other Operating Cost savings was NGTL able to achieve in 2003?

Response:

The following are some additional examples of initiatives yielding savings in 2003.

- A project to replace an aging Field Operations radio system with cellular and satellite phone technology was successfully implemented in 2003 with a projected net operating savings of approximately \$1.0 million per year for NGTL. As the project was implemented late in the year, actual 2003 savings will be minimal with full year savings expected in 2004.
- The retirement of the mainframe computer resulted in projected NGTL operating savings of approximately \$0.6 million per year through the elimination of related maintenance and support costs. Partial year benefits occur in 2003, with full year benefits expected in 2004.
- Optimization of aerial patrol frequencies and procedures has resulted in projected savings of approximately \$0.2 million relative to 2002.

Issue:

Operating Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3 – Operating Costs, page 3 of 4.

Preamble:

NGTL refers to programs and initiatives contributing to sustainable Operating Cost reductions.

Request:

Will NGTL's operating cost level be lower as of December 31, 2003 than on January 1, 2003? If so, by how much? If so, please explain the operating cost increase for 2004.

Response:

It is not possible to determine an Operating Cost level on a specific day. [As per the February 2004 Update](#), Total Operating Costs ~~are expected to increase~~ decreased by \$~~3.6~~1.9 million from 2002 to 2003 and [are expected to increase](#) by \$~~4.5~~10.4 million from 2003 to 2004 (refer to Line 9, Schedule 2.3.1) for the reasons noted in Sub-Section 2.3.1 – 2002 to 2004 Operating Costs, [pages 1 to 27](#).

CAPP-NGTL-010(d)

Issue:

Operating Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3 – Operating Costs, page 3 of 4.

Preamble:

NGTL refers to programs and initiatives contributing to sustainable Operating Cost reductions.

Request:

Before inflation, what would NGTL's Operating Cost forecast be for 2004 after taking into account the impact of the Operating Cost savings identified in (a) and (b)?

Response:

NGTL does not generally apply inflation factors in its forecasts. Where possible, each department forecasts costs rather than applying a general inflation factor. However, in the event that a forecast cost cannot be obtained, a Canadian inflation factor of 2.0% was recommended for 2004.

NGTL does not track costs to which a general inflation factor was applied, but believes this to be a small proportion of costs.

CAPP-NGTL-010(e)

Issue:

Operating Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3 – Operating Costs, page 3 of 4.

Preamble:

NGTL refers to programs and initiatives contributing to sustainable Operating Cost reductions.

Request:

What cost savings does NGTL expect out of each of these programs and initiatives in 2004?

Response:

Programs and initiatives undertaken in years prior to 2003 continue to deliver sustainable savings and are included the 2004 Test Year Costs. Please also refer to the response to BR-NGTL-004.

For most of the programs and initiatives listed in CAPP-NGTL-10(a) and (b) further savings will be realized in 2004 and have been included in the 2004 Test Year Operating Costs. Examples of these are:

- Radio System replacement: The project was completed late in 2003 resulting in minimal expected savings in 2003. Savings in 2004 relative to 2003 are expected to be approximately \$1.0 million;
- Contract Management: Contract management fees were re-negotiated for one service contract in 2003, with projected 2004 savings of approximately \$0.4 million; and
- The retirement of a mainframe computer resulted in projected NGTL Operating Cost savings of approximately \$0.6 million per year commencing in 2004 through the elimination of related maintenance and support costs.

CAPP-NGTL-010(f)

Issue:

Operating Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3 – Operating Costs, page 3 of 4.

Preamble:

NGTL refers to programs and initiatives contributing to sustainable Operating Cost reductions.

Request:

What other programs and initiatives will NGTL be undertaking in 2004 that will result in Operating Cost savings in 2004?

Response:

NGTL undertakes many continuous improvement initiatives on an on-going basis, resulting in year to year cost efficiency improvements as demonstrated in Figure 2.3-1 of the Application.

NGTL will continue to pursue continuous improvement opportunities in 2004. These will include further optimization of business practices and processes, improvements to business systems and further pursuit of technological innovation.

 CAPP-NGTL-011

[REVISED February 2004](#)

Issue:

Operating Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
 Sub-Section 2.3.1 – 2002 – 2004 Operating Costs, page 10 of 27.

Preamble:

NGTL states that six major compressor overhauls will be completed in 2004 compared to 12 in the 2003 forecast year.

Request:

Please provide a complete history of major compressor overhauls for 2002 and 2003 and a forecast of future compressor overhauls for 2004, 2005 and 2006.

Response:

[FAs per the February 2004 Update](#), the table below [has been updated and](#) details the number of major overhauls performed or forecast to be performed on the Alberta System for the period 2002 to 2005. Forecast data for 2005 is based on expected 2004 unit utilization. It is expected that unit utilization beyond 2004 will be different. A forecast for 2006 is not provided as the horizon is too remote to provide a meaningful estimate of the program.

Number of Major Overhauls Performed / Forecast – Alberta System

Equipment	Manufacturer	Type	2002 (Actual)	2003 (Forecast Actual)	2004 (Forecast)	2005 (Forecast)
RB211	Rolls Royce	Gas Generator	1	1	0	<u>+2</u>
LM2500	GE	Gas Generator	0	0	0	0
LM1600	GE	Gas Generator	3	0	2	0
Avon	Rolls Royce	Gas Generator	1	1	0	0

CAPP-NGTL-011

REVISED February 2004

Equipment	Manufacturer	Type	2002 (Actual)	2003 (Forecast Actual)	2004 (Forecast)	2005 (Forecast)
Allison 501	Rolls Royce	Gas Generator	1	1	1	<u>+0</u>
Tornado	Alstom	Gas Generator	1	0	0	0
Taurus	Solar	Gas Generator	1	0	0	<u>+0</u>
Centaur	Solar	Gas Generator	1	0	1	0
Saturn	Solar	Gas Generator	3	0	0	0
Saturn	Solar	Gas Generator/Power Turbine ²	1	1	1	<u>0</u> ₁
Centaur	Solar	Gas Generator/Power Turbine ²	1	3	0	<u>+0</u>
Recip.	Various	Reciprocating	1	2	0	<u>+0</u>
Mars	Solar	Gas Generator	0	0	0	0
Tornado	Alstom	Power Turbine	1	0	0	0
Centaur	Solar	Power Turbine	0	0	0	<u>0</u> ₁
Taurus	Solar	Power Turbine	0	0	0	<u>2</u> ₁
Saturn	Solar	Power Turbine ¹	0	0	1	0
RT48	Cooper Rolls	Power Turbine	0	0	0	0
RT56	Cooper Rolls	Power Turbine	0	0	0	0
RT62	Cooper Rolls	Power Turbine	0	0	0	0
GT-22	Dresser-Rand	Power Turbine	0	1	0	0
ELM 116/2	GE	Power Turbine ¹	1	2	<u>+0</u>	<u>+0</u>
Total			17	12	<u>7</u> ₆	<u>8</u> ₅

1. One additional overhaul has been scheduled and one overhaul was removed from the schedule in 2004 since the GRA was filed.
2. The gas generators and power turbines for Solar Centaur and Solar Saturn units may be overhauled together or individually.

Notes:

3. Includes all Gas Generator major overhauls, Power Turbine major overhauls, and Reciprocating Engine major overhauls only.
4. Does not include equipment failures and other unscheduled maintenance activities.
5. Solar Saturn and Solar Centaur overhauls where both the Power Turbine and Gas Generator are overhauled at the same time have been counted as one overhaul (GG + PT) rather than two overhauls.
6. Forecast based on projected utilization of compression equipment in 2004/2005. Should utilization change from the forecast the number of projected overhauls could increase or decrease.

Issue:

Operating Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Sub-Section 2.3.1 – 2002 – 2004 Operating Costs, page 13 of 27.

Preamble:

In 2004, System Design and Operations costs increase by \$0.6 million or about 10% largely due to forecast increases in salaries and benefits but offset by the impact of moving one group to another function.

Request:

Please provide a breakdown of costs in System Design and Operations and explain why costs increase by 10% when one group has moved out of this function.

Response:

[As per the February 2004 Update, System Design and Operations costs are forecast to increase by \\$0.8 million or about 13%.](#) There are several offsetting factors that account for the ~~40~~13% increase. In addition to what NGTL explained in the Application, NGTL notes that another group of comparable size moved into System Design and Operations which essentially offset the savings expected from the group leaving.

The following table provides a breakdown of 2004 estimated costs for System Design and Operations as compared to the ~~forecast~~ 2003 [actual](#) costs.

CAPP-NGTL-012

REVISED February 2004

Line No.	Particulars (\$000's)	Forecast Year 2003	Increase (Decrease)	2004 Test Year
1	Salaries ⁽¹⁾	5,016 <u>4,987</u>	357 <u>386</u>	5,373
2	Benefits ⁽¹⁾	1,437 <u>1,434</u>	419 <u>422</u>	1,856
3	Employee Expenses ⁽¹⁾	170 <u>143</u>	32 <u>59</u>	202
4	Contractor Fees	231 <u>217</u>	(69) <u>(55)</u>	162
5	Other ⁽²⁾	31 <u>7</u>	117 <u>141</u>	148
6	Charge-outs ⁽³⁾	(416) <u>(490)</u>	(201) <u>(127)</u>	(617)
7	Total	6,469 <u>6,298</u>	655 <u>826</u>	7,124

(1) Salaries, Benefits and Employee Expenses

The 2004 test year includes the full-year impact of the organizational changes, and the increases in salaries and benefits noted in the explanatory.

(2) Other

The increase is mainly due to software licensing costs.

(3) Charge-outs

The increase in charge-outs is due to revised rates resulting from salary and benefit changes.

CAPP-NGTL-013

REVISED February 2004**Issue:**

Operating Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
 Sub-Section 2.3.1 – 2002 – 2004 Operating Costs, page 14 of 27.

Preamble:

In 2004, costs for the Customer Service function increase by \$0.8 million or about 26% largely due to increases in salary and benefits.

Request:

Please provide a breakdown of costs in the Customer Service function and explain why costs increase by 26% when overall Total Direct Compensation is only increasing by 6%.

Response:

As per the February 2004 Update, Customer Service costs are forecast to increase by \$0.7 million or about 22%. The following table provides a breakdown of 2004 estimated costs for Customer Service as compared to the ~~forecast~~ 2003 actual costs.

Particulars (\$000)	Forecast <u>Actual</u> Year 2003	Increase / (Decrease)	Test Year 2004
Salaries	1,939 <u>1,891</u>	636 <u>366</u>	2,575 <u>2,257</u>
Benefits	751 <u>724</u>	277 <u>195</u>	1,028 <u>919</u>
Employee Expenses	119 <u>60</u>	4 <u>53</u>	123 <u>113</u>
Contractor Fees	365 <u>272</u>	(93) <u>28</u>	272 <u>300</u>
Other	8 <u>5</u>	(1) <u>2</u>	7
Charge-outs	(4) <u>(6)</u>	4 <u>6</u>	-
Total	3,178 <u>2,946</u>	827 <u>650</u>	4,005 <u>3,596</u>

~~Customer Service salaries and benefits do not increase 26%~~. The increase in costs is a combination of changes in the gross costs of the functional area plus changes in the allocations to the Alberta System.

Gross functional costs are impacted by:

- a 5.45.0% market competitive salary adjustments in the base salary component of Total Direct Compensation, calculated as the change in Schedule 2.3.2.1, Line 4, column (g) versus (j);
- the shift in certain benefit costs from the Benefit Adjustment to individual departments, and;
- the full year impact of reorganization changes which results in some cost shifts from other areas to ~~in~~ Customer Service.

A higher allocation to NGTL is due to the FT-P service implementation, extensive credit exposure work and continued increase in transaction counts (transfers, assignments, nominations) on NGTL relative to the Mainline and BC Systems. These transfers and assignments also drive additional credit workload as contract changes can result in changes in risk exposure.

Issue:

Operating Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.9 – Regulatory Hearing Costs, Schedule 2.9, Sheet 1 of 1.

Preamble:

The subject table shows Intervenor Costs increasing by a factor greater than 6 but External Hearing Costs decreasing by a factor of approximately 5 between 2003 and 2004.

Request:

Please provide a detailed breakdown by hearing of Intervenor Costs and External Hearing Costs for 2002, 2003 and 2004.

Response:

The detailed breakdown [of Regulatory Hearing Costs, as per the February 2004 Update, is as follows:](#)

CAPP-NGTL-014

REVISED February 2004

Particulars (\$000)	Base Year	Forecast	Test Year
	2002	<u>Actual</u> Year 2003	2004
Intervenor Costs			
Delivery Service to Fort McMurray (Application 2001084)	302	-	-
Fort Saskatchewan Extension (Application 1315423)	-	470	-
CO ₂ Management Service (Application 1253457)	176	<u>93 62</u>	-
2003 Revenue Requirement and Tariff Settlement (Applications 1294603 and 1289773)	-	<u>43 0</u>	-
Generic Cost of Capital Proceeding (Proceeding 1271597)	-	<u>85</u>	1,800
2004 GRA - Phase 1 (Application 1315423)	-	-	1,000
2004 GRA - Phase 2 (Application 1320419)	-	-	1,000
	478	<u>606 617</u>	3,800

External Hearing Costs

2003 Revenue Requirement and Tariff Settlement (Applications 1294603 and 1289773)	325	<u>636 417</u>	-
Generic Cost of Capital Proceeding (Proceeding 1271597)	-	<u>2,150 2,762</u>	150
2004 GRA - Phase 1 (Application 1315423)	-	<u>83 149</u>	280
2005 GRA	-	-	200
Other	-	<u>74 32</u>	-
	325	<u>2,943 3,360</u>	630

CAPP-NGTL-015

REVISED February 2004

Issue:

Operating Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Sub-Section 2.3.2 – Total Direct Compensation and Benefits, page 3 of 15 Table 2.3.2-1 and Schedule 2.3.2.1, Sheet 1 of 1.

Preamble:

Table 2.3.2-1 indicates that, in 2002, NGTL's Target Total Direct Compensation is 6.6% below the median of the comparator group and Actual Total Direct Compensation is 5.7% below while Table 2.3.2-3 indicates that Fixed Rate (Field) Positions are 2.1% above market.

Request:

Please estimate how NGTL's Total Direct Compensation would compare to the comparator groups specified in Tables 2.3.2.1 and 2.3.2-3 after Total Direct Compensation increased by 12.4% in 2003. Please then explain why it is necessary to increase Total Direct Compensation by 6% in 2004.

Response:

As a preliminary point, CAPP wrongly suggests that Total Direct Compensation (TDC) increased by 12.4% in 2003. CAPP refers to line 14 in Table 2.3.2.1, which is TDC plus benefits.

TDC includes base salary, short-term incentive compensation, and long-term compensation only. TDC does not include benefits.

Accordingly, ~~As per the February 2004 Update,~~ the increase in the TDC allocations to NGTL are ~~10.2%~~ 14.6% in 2003 and ~~7.1%~~ 5.0% in 2004.

It is TCPL's objective in establishing its Total Direct Compensation (TDC) to be competitive with the median of the comparator group and consistent with this objective annual adjustments are made to the components of TDC for each position, as required. These adjustments in aggregate are ultimately reflected in the allocations to NGTL.

Please refer to the Application, Sub-Section 2.3.2, page 1 of 15 for details of the year over year changes in the costs associated with the components of TDC.

 CAPP-NGTL-016(a)

REVISED February 2004

Issue:

Stock and Debt Administration

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
 Section 2.3.1 – 2002 to 2004 Operating Costs, Page 23 of 27.

Preamble:

Stock and Debt Administration includes line of credit standby fees. Costs in 2003 include the cost for establishment of a new credit facility. Costs in 2004 are expected to remain at 2003 levels.

Request:

Please provide a breakdown of Stock and Debt Administration Costs for 2002, 2003 and 2004, specifically itemizing Credit Standby Fees and the cost of establishing the new credit facility.

Response:

[As per the February 2004 Update, the Stock and Debt Administration costs include the following:](#)

Line No.	Particulars (000's)	Base Year 2002	Forecast Actual Year 2003	Test Year 2004
1	Common Stock Expense	735	1,102 1,182	1,105
2	Line of Credit Standby Fee	478	538 405	480
3	Upfront Fee Amortization ¹	-	290 305	283
4	Medium Term Notes	242	155 163	170

¹ The costs of establishing the new credit facility are being amortized over a three year period.

CAPP-NGTL-016(a)

REVISED February 2004

5	Other	205	-	-
6	Total Stock and Debt Administration	1,660	2,085 <u>2,055</u>	2,038

CAPP-NGTL-016(b)

Issue:

Stock and Debt Administration

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3.1 – 2002 to 2004 Operating Costs, Page 23 of 27.

Preamble:

Stock and Debt Administration includes line of credit standby fees. Costs in 2003 include the cost for establishment of a new credit facility. Costs in 2004 are expected to remain at 2003 levels.

Request:

Please explain the need for Credit Standby Fees.

Response:

During the 2004 test year, NGTL is forecasting that its capitalization will include unfunded debt, which will be underpinned by the commercial paper program of NGTL's parent, TCPL. In order to achieve the lowest-cost financing possible, a line of credit has been established to fully backstop the TCPL commercial paper program. As such, NGTL is including its pro-rata share of line of credit standby fees in the 2004 test year revenue requirement.

CAPP-NGTL-016(c)

Issue:

Stock and Debt Administration

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3.1 – 2002 to 2004 Operating Costs, Page 23 of 27.

Preamble:

Stock and Debt Administration includes line of credit standby fees. Costs in 2003 include the cost for establishment of a new credit facility. Costs in 2004 are expected to remain at 2003 levels.

Request:

If the cost of establishing a new credit facility is not included in 2004 costs, please explain why 2004 costs are expected to remain at 2003 levels.

Response:

The new credit facility is being amortized over the three year life of the new facility. The 2004 costs include the upfront fee amortization (refer to the response to CAPP-NGTL-016(a), Line 3, for further details).

CAPP-NGTL-017

Issue:

Stock and Debt Administration Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3.1 – 2002 to 2004 Operating Costs, Page 23 of 27.

Preamble:

In its application for 2003 Tolls and Tariff, TransCanada Pipelines included in its Auditing, Legal and Common Stock expense budget certain expenses related to the creation of TransCanada Corporation.

Request:

Please confirm that there are no costs of any type included in NGTL's application that are in any way related to the creation of TransCanada Corporation or its ongoing operation. If there are, please provide full detail of those costs and an explanation as to why these costs should be included in NGTL's revenue requirement.

Response:

NGTL's portion of the incremental costs in 2004, as a result of the creation of TransCanada Corporation included in this Application, are estimated as follows:

Particulars	
Annual Disclosure Fees	\$ 11,300
Stock Exchange Listing Fees	16,950
Printing Costs	17,521
Audit Fees	7,063
Miscellaneous	3,955
Total Costs	\$ 56,789

CAPP-NGTL-017

In 2003, TransCanada Corporation was created to enable future investments which may have been prevented under the previous structure. These investment opportunities are of a long-term nature and are expected to include northern development. The investments in northern development are expected to bring increased gas supply to the Alberta System. Additional supply to Alberta System and should potentially increase throughput which is a benefit to all shippers. Therefore, NGTL's portion of all incremental costs as a result of the creation of TransCanada Corporation should be recoverable.

Issue:

Amortization of Long Term Debt Issue Expense Request

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.4, Sheets 1, 2 & 3 of 3.

Request:

Please explain why the 7.875% US\$200MM Debenture is shown as fully amortized on Sheets 1 and 2 but reappears on Sheet 3.

Response:

The description of the 7.875% US\$200MM Debenture was reversed with the description of the 7.875% US \$125MM Debenture which was fully amortized in 2002. [This correction has been made in Schedule 2.2.4 of the February 2004 Update.](#) Please see revised Schedules in Attachment CAPP-NGTL-018(a).

AMORTIZATION OF LONG TERM DEBT ISSUE EXPENSE

FOR THE BASE YEAR ENDED DECEMBER 31, 2002

(\$Thousands)

LINE NO.	DESCRIPTION	TOTAL ISSUE COSTS	UNAMORTIZED BALANCE DEC. 31, 2001	LESS: AMORTIZATION	UNAMORTIZED BALANCE DEC. 31, 2002
	(a)	(b)	(c)	(d)	(e)
Debentures					
1	11.95% Series 13	2,645	760	132	628
2	11.70% Series 15	1,804	612	90	522
3	11.20% Series 18	1,527	758	61	698
4	12.625% Series 19	1,243	515	62	453
5	12.20% Series 21	2,889	1,634	115	1,519
6	8.30% Series 22	1,681	258	168	90
7	9.90% Series 23	1,434	1,096	48	1,048
8	8.50% US\$175MM	3,685	2,023	185	1,839
9	7.875% US\$200MM	4,013	2,842	134	2,708
10	8.50% US\$125MM	993	282	96	186
11	7.70% US\$200MM	2,749	2,516	92	2,425
12	7.875% US\$125MM	1,277	123	123	-
Medium Term Notes - Cdn					
13	CDN Medium Term Notes (1994)	1,261	2	2	-
14	CDN Medium Term Notes (1995)	2,864	1,850	152	1,698
15	7.00% \$100MM MTN #17	384	331	12	319
16	6.05% \$50MM MTN #18	500	278	49	229
17	6.00% \$22MM MTN #19	577	342	56	286
18	6.59% \$20MM MTN #20	333	289	11	277
19	6.59% \$2.5MM MTN #21	42	36	1	35
20	6.59% \$10MM MTN #22	158	137	5	131
21	6.59% \$20MM MTN #23	312	271	10	260
22	6.00% \$5MM MTN #24	115	70	11	58
23	6.00% \$53MM MTN #25	1,203	726	119	607
25	6.59% \$25MM MTN #29	491	425	16	409
26	6.00% \$25MM MTN #30	643	388	64	324
27	6.30% \$100MM MTN#31	692	614	22	593
28	7.52% \$300MM Note Payable to TransCanada	1,200	970	120	850
Medium Term Notes - US					
29	7.50% US\$32.5 MM	883	727	29	697
Unsecured Loans					
30	8.95% U.S. Credit Suisse/Citibank	1,529	192	104	87
31	Total	39,127	21,066	2,090	18,976

AMORTIZATION OF LONG TERM DEBT ISSUE EXPENSE

FOR THE FORECAST YEAR ENDING DECEMBER 31, 2003
(\$Thousands)

LINE NO.	DESCRIPTION	TOTAL ISSUE COSTS	UNAMORTIZED BALANCE DEC. 31, 2002	LESS: AMORTIZATION	UNAMORTIZED BALANCE DEC. 31, 2003
	(a)	(b)	(c)	(d)	(e)
	Debentures				
1	11.95% Series 13	2,645	628	132	497
2	11.70% Series 15	1,804	522	90	431
3	11.20% Series 18	1,527	698	61	637
4	12.625% Series 19	1,243	453	62	390
5	12.20% Series 21	2,889	1,519	115	1,403
6	8.30% Series 22	1,681	90	90	-
7	9.90% Series 23	1,434	1,048	48	1,001
8	8.50% US\$175MM	3,685	1,839	185	1,654
9	7.875% US\$200MM	4,013	2,708	134	2,575
10	8.50% US\$125MM	993	186	96	90
11	7.70% US\$200MM	2,749	2,425	92	2,333
	Medium Term Notes - Cdn				
12	CDN Medium Term Notes (1995)	2,864	1,698	152	1,546
13	7.00% \$100MM MTN #17	384	319	12	306
14	6.05% \$50MM MTN #18	500	229	49	179
15	6.00% \$22MM MTN #19	577	286	56	230
16	6.59% \$20MM MTN #20	333	277	11	266
17	6.59% \$2.5MM MTN #21	42	35	1	33
18	6.59% \$10MM MTN #22	158	131	5	126
19	6.59% \$20MM MTN #23	312	260	10	250
20	6.00% \$5MM MTN #24	115	58	11	47
21	6.00% \$53MM MTN #25	1,203	607	119	487
22	6.59% \$25MM MTN #29	491	409	16	393
23	6.00% \$25MM MTN #30	643	324	64	260
24	6.30% \$100MM MTN#31	692	593	22	571
25	7.52% \$300MM Note Payable to TransCanada	1,200	850	120	730
	Medium Term Notes - US				
26	7.50% US\$32.5 MM	883	697	29	668
	Unsecured Loans				
27	8.95% \$150MM Citibank	1,529	87	87	-
28	Total	36,589	18,976	1,871	17,105

AMORTIZATION OF LONG TERM DEBT ISSUE EXPENSE

FOR THE TEST YEAR ENDING DECEMBER 31, 2004
(\$Thousands)

LINE NO.	DESCRIPTION	TOTAL ISSUE COSTS	UNAMORTIZED BALANCE DEC. 31, 2003	LESS: AMORTIZATION	UNAMORTIZED BALANCE DEC. 31, 2004
	(a)	(b)	(c)	(d)	(e)
Debentures					
1	11.95% Series 13	2,645	497	132	365
2	11.70% Series 15	1,804	431	90	341
3	11.20% Series 18	1,527	637	61	576
4	12.625% Series 19	1,243	390	62	328
5	12.20% Series 21	2,889	1,403	115	1,288
6	9.90% Series 23	1,434	1,001	48	953
7	8.50% US\$175MM	3,685	1,654	185	1,470
8	7.875% US\$200MM	4,013	2,575	134	2,441
9	8.50% US\$125MM	993	90	90	-
10	7.70% US\$200MM	2,749	2,333	92	2,241
Medium Term Notes - Cdn					
11	CDN Medium Term Notes (1995)	2,864	1,546	152	1,395
12	7.00% \$100MM MTN #17	384	306	12	294
13	6.05% \$50MM MTN #18	500	179	49	130
14	6.00% \$22MM MTN #19	577	230	56	174
15	6.59% \$20MM MTN #20	333	266	11	255
16	6.59% \$2.5MM MTN #21	42	33	1	32
17	6.59% \$10MM MTN #22	158	126	5	121
18	6.59% \$20MM MTN #23	312	250	10	239
19	6.00% \$5MM MTN #24	115	47	11	35
20	6.00% \$53MM MTN #25	1,203	487	119	368
21	6.59% \$25MM MTN #29	491	393	16	376
22	6.00% \$25MM MTN #30	643	260	64	197
23	6.30% \$100MM MTN#31	692	571	22	550
24	7.52% \$300MM Note Payable to TransCanada	1,200	730	120	611
Medium Term Notes - US					
25	7.50% US\$32.5 MM	883	668	29	638
26	Total	33,379	17,105	1,688	15,417

CAPP-NGTL-018(b)

Issue:

Amortization of Long Term Debt Issue Expense Request

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.4, Sheets 1, 2 & 3 of 3.

Request:

Please explain why the 7.875% US\$125MM Debenture shows an Unamortized Balance on Sheets 1 and 2 that is greater than the Total Issue Cost of \$1,277,000?

Response:

The description of the 7.875% US\$200MM Debenture was reversed with the description of the 7.875% US \$125MM Debenture which was fully amortized in 2002. Please refer to the response to CAPP-NGTL-018(a).

Issue:

Debt Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.2 Sheets 1, 2 and 3 of 3.

Preamble:

The Financing Cost Rate is 8.39% in 2002, 8.55% in 2003 and 8.63% in 2004.

Request:

Please explain, through a reconciliation of the three tables, why the Financing Cost Rate is increasing.

Response:

[As per the February 2004 Update, Pp](#)lease see Attachment CAPP-NGTL-019.

RECONCILIATION OF COST OF LONG TERM DEBT OUTSTANDING

FOR THE BASE YEAR ENDED DECEMBER 31, 2002,
THE ACTUAL YEAR ENDING DECEMBER 31, 2003,
AND THE TEST YEAR ENDING DECEMBER 31, 2004
(\$Millions)

LINE NO.	YEAR	ADJUSTMENT	INTEREST EXPENSE	WEIGHTED AVG LTD OUTSTANDING (GRA SCHEDULE 2.2.3)	FINANCING COST RATE
	(a)	(b)	(c)	(d)	(e)
1	2002	Balance	264.4	3,151.5	8.39%
	2003				
2		Reduction due to sinking fund payments	(2.5)	(21.1)	
		Reduction due to debt maturities:			
3		8.30% Series 22 \$150MM	(5.8)	(69.2)	
4		9.4% MTN #2 \$6MM	-	(1.8)	
5		7.875% US\$125MM	(8.6)	(147.1)	
6		5.87% \$300 MM Note Payable to TransCanada	(4.3)	(69.2)	
7		Floating US \$32.5 MM	(0.3)	(5.9)	
8		8.2915% U.S. Credit Suisse/Citibank US \$75MM	(0.9)	(13.3)	
9		Reduction due to amortization of issue costs	(0.2)	N/A	
10		2003 Balance	241.8	2,823.9	8.56%
	2004				
11		Reduction due to sinking fund payments	(2.5)	(21.1)	
		Reduction due to debt maturities:			
12		8.30% Series 22 \$150MM	(6.7)	(80.8)	
13		8.50% U.S. \$125MM	(0.9)	(12.5)	
14		Floating US \$32.5 MM	(0.5)	(32.5)	
15		8.2915% U.S. Credit Suisse/Citibank US \$75MM	(6.0)	(73.3)	
16		Reduction due to amortization of issue costs	(0.2)	N/A	
17		2004 Balance	224.7	2,603.7	8.63%

CAPP-NGTL-020

Issue:

Debt Cost

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.3 Sheets 1, 2 and 3 of 3.

Request:

Please explain why NGTL uses a 13-month average to calculate the Weighted Average Long Term Debt Outstanding.

Response:

NGTL has consistently used a thirteen month average in calculating its average rate base and associated capital structure components. The principal reason for using the 13 month average is that it better reflects the variation that occurs from month to month in the components of the rate base and capital structure; especially during periods when there are significant capital additions to the rate base or changes in the mix of the capital structure.

By using the thirteen months, that is from January 01, January 31 and the end of each subsequent month to December 31, the changes in the monthly balances in the rate base and capital structure are more appropriately represented in the measurement of the yearly average rather than by simply using a mid year average.

CAPP-NGTL-021

Issue:

Operating Return

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.1.

Request:

Please provide both actual and allowed Operating Return data for the years 1995 to 2001 in the format of Schedule 2.2.1 separating out long-term debt and short-term debt.

Response:

The requested information is provided in Attachment CAPP-NGTL-021.

For 1995, the Operating Return data is as approved in EUB Decision U96001. For the years 1996 through 2001, allowed return on common equity was not prescribed in the settlement agreements that NGTL was under during these years. Furthermore, the 2001 settlement agreement did not define a capital structure and, as such, neither actual nor allowed Operating Return data is available for this year. However, for illustrative purposes, the Operating Return calculation reflecting a deemed common equity component of 32% has been provided for 2001.

OPERATING RETURN (Illustrative Example)⁽²⁾

FOR THE YEAR ENDING DECEMBER 31, 2001

(\$Thousands)

LINE NO.	DESCRIPTION (a)	AVERAGE CAPITAL OUTSTANDING (b)	CAPITAL RATIO % ⁽¹⁾ (c)	AVERAGE RATE BASE ⁽³⁾ (d)	COST FACTOR % ⁽¹⁾ (e)	WEIGHTED COST % ⁽¹⁾ (f)	OPERATING RETURN (g)
1	Common Equity	1,658,564	32.00%	1,642,145	14.01%	4.48%	230,067
2	Long Term Debt	3,285,103	63.38%	3,252,582	8.42%	5.33%	273,730
3	Unfunded Debt	239,346	4.62%	236,976	4.12%	0.19%	9,759
4		5,183,013	100.00%	5,131,704		10.01%	513,556

⁽¹⁾ Rounded to 2 decimal places for presentation purposes only.⁽²⁾ For illustrative purposes only capital structure reflects 32% deemed common equity.⁽³⁾ Excludes Capital Pipeline Integrity Rate Base.

OPERATING RETURN

FOR THE YEAR ENDING DECEMBER 31, 2000
(\$Thousands)

LINE NO.	DESCRIPTION (a)	AVERAGE CAPITAL OUTSTANDING (b)	CAPITAL RATIO % ⁽¹⁾ (c)	AVERAGE RATE BASE (d)	COST FACTOR % ⁽¹⁾ (e)	WEIGHTED COST % ⁽¹⁾ (f)	OPERATING RETURN (g)
1	Common Equity	1,687,787	32.00%	1,670,437	12.92%	4.13%	215,778
2	Long Term Debt	3,389,382	64.26%	3,357,300	8.54%	5.49%	286,647
3	Unfunded Debt	197,166	3.74%	192,378	5.61%	0.21%	10,785
4		5,274,335	100.00%	5,220,115		9.83%	513,210

⁽¹⁾ Rounded to 2 decimal places for presentation purposes only.

OPERATING RETURN

FOR THE YEAR ENDING DECEMBER 31, 1999
(\$Thousands)

LINE NO.	DESCRIPTION (a)	AVERAGE CAPITAL OUTSTANDING (b)	CAPITAL RATIO % ⁽¹⁾ (c)	AVERAGE RATE BASE (d)	COST FACTOR % ⁽¹⁾ (e)	WEIGHTED COST % ⁽¹⁾ (f)	OPERATING RETURN (g)
1	Common Equity	1,705,950	32.00%	1,671,988	12.97%	4.15%	216,852
2	Long Term Debt	3,297,111	61.85%	3,249,928	8.45%	5.22%	274,554
3	Unfunded Debt	328,033	6.15%	303,046	4.98%	0.31%	15,079
4		5,331,094	100.00%	5,224,962		9.68%	506,485

⁽¹⁾ Rounded to 2 decimal places for presentation purposes only.

OPERATING RETURN

FOR THE YEAR ENDING DECEMBER 31, 1998
(\$Thousands)

LINE NO.	DESCRIPTION (a)	AVERAGE CAPITAL OUTSTANDING (b)	CAPITAL RATIO % ⁽¹⁾ (c)	AVERAGE RATE BASE (d)	COST FACTOR % ⁽¹⁾ (e)	WEIGHTED COST % ⁽¹⁾ (f)	OPERATING RETURN (g)
1	Common Equity	1,642,826	32.00%	1,581,125	12.58%	4.03%	198,981
2	Long Term Debt	3,340,485	65.07%	3,227,169	8.61%	5.60%	277,729
3	Unfunded Debt	150,520	2.93%	132,722	6.43%	0.19%	8,536
4		5,133,831	100.00%	4,941,016		9.82%	485,246

⁽¹⁾ Rounded to 2 decimal places for presentation purposes only.

OPERATING RETURN

FOR THE YEAR ENDING DECEMBER 31, 1997
(\$Thousands)

LINE NO.	DESCRIPTION (a)	AVERAGE CAPITAL OUTSTANDING (b)	CAPITAL RATIO % ⁽¹⁾ (c)	AVERAGE RATE BASE (d)	COST FACTOR % ⁽¹⁾ (e)	WEIGHTED COST % ⁽¹⁾ (f)	OPERATING RETURN (g)
1	Common Equity	1,584,061	32.00%	1,538,602	12.81%	4.10%	197,125
2	Long Term Debt	3,053,586	61.69%	3,021,485	8.63%	5.32%	260,632
3	Unfunded Debt	312,544	6.31%	248,045	3.95%	0.25%	9,794
4		4,950,191	100.00%	4,808,132		9.67%	467,551

⁽¹⁾ Rounded to 2 decimal places for presentation purposes only.

OPERATING RETURN

FOR THE YEAR ENDING DECEMBER 31, 1996
(\$Thousands)

LINE NO.	DESCRIPTION (a)	AVERAGE CAPITAL OUTSTANDING (b)	CAPITAL RATIO % ⁽¹⁾ (c)	AVERAGE RATE BASE (d)	COST FACTOR % ⁽¹⁾ (e)	WEIGHTED COST % ⁽¹⁾ (f)	OPERATING RETURN (g)
1	Common Equity	1,543,081	32.00%	1,520,092	12.09%	3.87%	183,737
2	Long Term Debt	3,006,123	62.34%	3,006,123	9.01%	5.62%	270,932
3	Unfunded Debt	272,925	5.66%	224,071	4.78%	0.27%	10,706
4		4,822,129	100.00%	4,750,286		9.76%	465,375

⁽¹⁾ Rounded to 2 decimal places for presentation purposes only.

OPERATING RETURN (Amended 1995 EUB Decision U96001)

FOR THE YEAR ENDING DECEMBER 31, 1995
(\$Thousands)

LINE NO.	DESCRIPTION (a)	AVERAGE CAPITAL OUTSTANDING (b)	CAPITAL RATIO % ⁽¹⁾ (c)	AVERAGE RATE BASE (d)	COST FACTOR % ⁽¹⁾ (e)	WEIGHTED COST % ⁽¹⁾ (f)	OPERATING RETURN (g)
1	Common Equity	1,549,611	31.93%	1,421,430	11.50%	3.67%	163,463
2	Long Term Debt	2,958,000	61.66%	2,744,954	9.42%	5.81%	258,575
3	Unfunded Debt	257,130	5.34%	237,640	8.36%	0.45%	19,867
4	No-Cost Capital	25,681	0.76%	33,758	0.00%	0.00%	-
5	Prteferred Share Equity	15,376	0.32%	14,211	6.33%	0.02%	900
6		4,805,798	100.00%	4,451,993		9.93%	442,805

⁽¹⁾ Rounded to 2 decimal places for presentation purposes only.

CAPP-NGTL-022

Issue:

Capital Structure

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.1.

Request:

- (a) Has NGTL ever had any preferred shares in its capital structure?
- (b) If so, when?
- (c) Why were the preferred shares removed from the capital structure?

Response:

- (a) Yes.
- (b)

Year	Preferred Share Capital (\$000)	Comments
Jan 1, 1995 – Feb 15, 1995	100,000	Included in the regulated capital structure approved in EUB Decision U96001
Jan 1998 – Sep 1999	3,035,000	Not included in the regulated capital structure
Sep 1999 – Present	100	Not included in the regulated capital structure

- (c) In 1995, NGTL's preferred shares were redeemed as it was determined to be cost effective to do so at that time. In 1998, in contemplation of the merger with TransCanada PipeLines Limited, NGTL's common shares were converted to

CAPP-NGTL-022

redeemable retractable preferred shares. In 1999, NGTL's share capital was again restructured to change the designation of the preferred shares to new common shares and new senior preferred shares. The changes to NGTL's share capital structure in 1998 and 1999 did not impact NGTL's regulated capital structure.

CAPP-NGTL-023(a)

Issue:

Debt Cost

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.2 Sheets 1, 2 and 3 of 3.

Request:

Please show issue and maturity dates for each debt issue listed in the Schedules.

Response:

Please refer to Attachment CAPP-NGTL-023(a).

LONG TERM DEBT ISSUE AND MATURITY DATES

LINE NO.	DESCRIPTION	ISSUE DATE	MATURITY DATE
	(a)	(b)	(c)
	Debentures		
1	11.95% Series 13	4-Sep-87	1-Oct-07
2	11.70% Series 15	21-Sep-88	15-Oct-08
3	11.2% Series 18	16-May-89	1-Jun-14
4	12 5/8% Series 19	2-Apr-90	15-Apr-10
5	12.20 % Series 20	1-Feb-91	28-Feb-16
6	12.20 % Series 21	1-Feb-91	28-Feb-16
7	8.30% Series 22	21-Jun-93	15-Jul-03
8	9.9% Series 23	1-Dec-94	16-Dec-24
9	8 1/2% U.S. \$175MM	8-Dec-92	15-Dec-12
10	7 7/8% U.S. \$200MM	24-Mar-93	1-Apr-23
11	8 1/2% U.S. \$125MM	1-Dec-94	8-Dec-04
12	7.7% U.S. \$200 MM	15-Jun-99	15-Jun-29
13	7.875% U.S. \$125 MM	8-Dec-92	15-Dec-02
	Medium Term Notes - Cdn		
14	9.4% MTN #2	18-Nov-94	1-Apr-02
15	8.90% MTN #7	25-May-95	27-May-25
16	8.90% MTN #8	25-May-95	27-May-25
17	8 7/8% MTN #9	25-May-95	27-May-26
18	8.50% MTN #10	25-May-95	25-May-05
19	8.46% MTN #11	5-Jun-95	5-Jun-26
20	8.90% MTN #12	2-Jun-95	27-May-25
21	8 7/8% MTN #13	2-Jun-95	27-May-26
22	8.50% MTN #14	16-Jun-95	15-Mar-06
23	8.50% MTN #15	19-Jun-95	15-Mar-06
24	7.00% \$100MM MTN #17	16-Jul-97	17-Jul-28
25	6.05% \$50MM MTN #18	16-Jul-97	16-Jul-07
26	6.00% \$22MM MTN #19	30-Oct-97	31-Jan-08
27	6.59% \$20MM MTN #20	1-Dec-97	1-Dec-27
28	6.59% \$2.5MM MTN #21	1-Dec-97	1-Dec-27
29	6.59% \$10MM MTN #22	1-Dec-97	1-Dec-27
30	6.59% \$20MM MTN #23	1-Dec-97	1-Dec-27
31	6.00% \$5MM MTN #24	1-Dec-97	31-Jan-08
32	6.00% \$53MM MTN #25	1-Dec-97	31-Jan-08
33	6.59% \$25MM MTN #29	8-Dec-97	1-Dec-27
34	6.00% \$25MM MTN #30	8-Dec-97	31-Jan-08
35	6.30% \$100MM MTN#31	27-May-98	27-May-30
36	7.52% \$300MM Note Payable to TransCanada	31-Jan-00	31-Jan-10
37	5.87% \$300MM Note Payable to TransCanada	31-Aug-02	29-Nov-02
	Medium Term Notes - U.S.		
38	7.50% U.S. \$32.5MM	23-Aug-96	20-Aug-26
39	5.18% U.S. Credit Suisse/Citibank - rollover	1-Aug-97	14-Nov-03
	Unsecured Loans		
40	8.95% U.S. Credit Suisse/Citibank	27-Jun-97	14-Nov-03

CAPP-NGTL-023(b)

Issue:

Debt Cost

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.2 Sheets 1, 2 and 3 of 3.

Request:

Has the ratio of long-term debt to short-term debt changed since 2002? If so, why and by how much?

Response:

This request requires NGTL to assume a capital structure for 2002 and 2003. In these years NGTL has assumed a 32% deemed common equity. Incorporating this assumption, the ratio of long-term debt as a percentage of the total debt component has changed since 2002. In 2003 the long-term debt ratio decreased from approximately 91% of total debt in 2002 to 85% in 2003 primarily due to a decrease in the weighted average long-term debt balance. In 2004 this ratio increased to approximately 93% primarily due to an increase in the deemed equity structure from 32% in 2003 to 40%. The increase in the long-term debt ratio resulting from the change in equity structure in 2004 was partially offset by the impact of a lower average long-term debt balance in 2004 compared to 2003.

CAPP-NGTL-023(c)

Issue:

Debt Cost

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.2 Sheets 1, 2 and 3 of 3.

Request:

Please identify which, if any, issues have been swapped from fixed to floating rates, or vice versa, and show the terms of the swaps.

Response:

Please refer to Attachment CAPP-NGTL-023(c).

LONG-TERM DEBT INTEREST RATE SWAPS
(\$thousands)

LINE NO.	DEBT INSTRUMENT (a)	TERM OF SWAP (b)	CAD PRINCIPAL AMOUNT (c)	MATURITY DATE (d)
1	9.4% CAD \$6MM	November 18, 1994; Swapped to floating 3 month BA + 14.5 bps	6,000	1-Apr-02
2	U.S. \$75 MM Credit Suisse/Citibank (Jun 27/97 to Nov 14/02: floating Libor + 30 bps, Nov 14/02 to 2003: Libor + 37.5 bps)	June 27, 1997; Swapped to 8.2915% fixed	86,630	14-Nov-03

CAPP-NGTL-023(d)

Issue:

Debt Cost

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.2 Sheets 1, 2 and 3 of 3.

Request:

For all swaps, please compare the effective rate (i.e. actual cost) to the original rate since the swap was implemented.

Response:

Please refer to Attachment CAPP-NGTL-023(d).

LONG-TERM DEBT INTEREST RATE SWAPS

LINE NO.	DEBT INSTRUMENT	DATES (a)	EFFECTIVE INTEREST RATE (b)	ORIGINAL INTEREST RATE (c)
	9.4% CAD \$6MM (November 18, 1994; Swapped to floating 3 month BA + 14.5bps)			
1		ISSUE DATE: NOVEMBER 18, 1994 - DECEMBER 31, 1994	6.5575%	9.4000%
2		JANUARY 1 - DECEMBER 31, 1995	7.2523%	9.4000%
3		JANUARY 1 - DECEMBER 31, 1996	4.6041%	9.4000%
4		JANUARY 1 - DECEMBER 31, 1997	3.7097%	9.4000%
5		JANUARY 1 - DECEMBER 31, 1998	5.2179%	9.4000%
6		JANUARY 1 - DECEMBER 31, 1999	5.0689%	9.4000%
7		JANUARY 1 - DECEMBER 31, 2000	5.8446%	9.4000%
8		JANUARY 1 - DECEMBER 31, 2001	4.1746%	9.4000%
9		JANUARY 1 - MATURITY DATE: APRIL 1, 2002	2.2830%	9.4000%
10		AVERAGE INTEREST RATE	4.9681% ⁽¹⁾	9.4000%
	U.S. \$75 MM Credit Suisse/Citibank (Jun 27/97 to Nov 14/02; floating Libor + 30 bps, Nov 14/02 to 2003; Libor + 37.5 bps); (June 27, 1997; Swapped to 8.2915% fixed)			
11		ISSUE DATE: JUNE 27, 1997 - DECEMBER 31, 1997	8.2915%	6.0833%
12		JANUARY 1 - DECEMBER 31, 1998	8.2915%	5.8594%
13		JANUARY 1 - DECEMBER 31, 1999	8.2915%	5.7163%
14		JANUARY 1 - DECEMBER 31, 2000	8.2915%	6.8359%
15		JANUARY 1 - DECEMBER 31, 2001	8.2915%	4.0770%
16		JANUARY 1 - DECEMBER 31, 2002	8.2915%	2.0949%
17		JANUARY 1 - MATURITY DATE: NOVEMBER 14, 2003	8.2915%	1.5954%
18		AVERAGE INTEREST RATE	8.2915%	4.6089%

NOTES:

- ⁽¹⁾ Excluding the year of issue and maturity, interest has been calculated based on the average BA rate for each year.
 In 1994, the average BA rate from November 18 to December 31 was used in calculating the interest amount.
 In 2002, the average BA rate from January 1 to April 1 was used in calculating the interest amount.
- ⁽²⁾ Excluding the year of issue and maturity, interest has been calculated based on the average LIBOR rate for each year.
 In 1997, the average LIBOR rate from June 27 to December 31 was used in calculating the interest amount.
 In 2003, the average LIBOR rate from January 1 to November 14 was used in calculating the interest amount.

CAPP-NGTL-024

Issue:

Debt Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.2 Sheet 3 of 3, line 37.

Preamble:

NGTL shows a \$300 million note payable to TransCanada

Request:

- (a) Please confirm that this is the only inter-company loan. If not, please show all other inter-company loans.
- (b) Please provide the prospectus or loan agreement for all inter-company loans

Response:

- (a) Not confirmed. There is also a 7.7% US \$200 million Promissory Note to TransCanada. Please see Attachment CAPP-NGTL-024(a).
- (b) Please see Attachment 1 CAPP-NGTL-024(b) and Attachment 2 CAPP-NGTL-024(b).

INTERCOMPANY DEBT WITH TRANSCANADA

LINE NO.	DESCRIPTION	ISSUE DATE	MATURITY DATE
	(a)	(b)	(c)
1	7.7% U.S. \$200 million	15-Jun-99	15-Jun-29
2	7.52% \$300 million Note Payable to TransCanada	31-Jan-00	31-Jan-10



January 14, 2000

NOVA Gas Transmission Ltd.
111 – 5TH Avenue S.W.
Calgary, AB T2P 3Y6

Dear Sir / Madam:

Re: Intercompany Loans

From time to time NOVA Gas Transmission Ltd. (NGTL) may obtain long-term (i.e. for periods in excess of one year) debt financing from its parent, TransCanada PipeLines Limited (TransCanada). In connection with providing such loans, TransCanada may incur certain third party financing costs. This letter agreement shall confirm our agreement that such third party costs shall be born by NGTL and shall outline the methods by which such costs shall be determined.

All funds lent by TransCanada to NGTL will be considered to be either a direct loan or an indirect loan. For the purposes of this agreement, a direct loan is one in which TransCanada borrows funds from a third party and concurrently lends the same amount to NGTL under the same terms as the third party borrowing. All other loans from TransCanada to NGTL shall be considered indirect borrowings. In all cases, loans from TransCanada to NGTL shall be in accordance with all relevant regulations including the Alberta Energy and Utilities Board Order U99053.

In the case of a direct borrowing, NGTL agrees to pay to TransCanada on the date of the loan an amount equal to the third party costs incurred by TransCanada in relation to TransCanada's third party borrowing in addition to any interest charged on the subject loan.

In the case of an indirect loan, NGTL, in addition to any interest charged on the subject loan, agrees to pay to TransCanada the lesser of i) a prorata share of all third party costs related to long-term borrowing by TransCanada during the most recent 12 month period preceding the date of the loan and ending on one of March 31, June 30, September 30 or December 31, or b) the third party financing costs NGTL would have incurred had it borrowed such funds from a third party under its most recent US or Canadian medium term note selling agency agreements.

2 -

In each case, TransCanada shall provide to NGTL a statement outlining the subject third party fees as well as reasonable detail as to how such fees are calculated.

If the foregoing is satisfactory, please execute a copy of this letter agreement in the space provided below.

Yours truly,

TransCanada PipeLines Limited

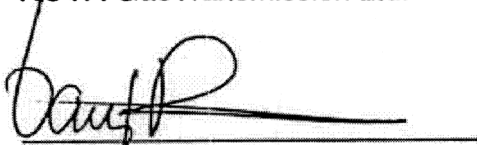


Per:

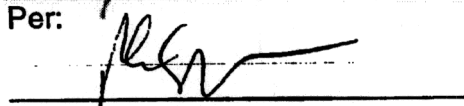


Acknowledged and Agreed

NOVA GasTransmission Ltd.



Per:



Per:

Calgary, Alberta

Principal Amount (Cdn.\$): \$300,000,000.00
Issue Date: January 31, 2000
Maturity Date: January 31, 2010
Interest Rate per Annum: 7.52%

NOVA Gas Transmission Ltd. ("NGTL")

Promissory Note

Whereas NGTL wishes to obtain a portion of its long term debt financing through its parent, TransCanada PipeLines Limited (the "Lender");

Whereas the Alberta Energy and Utilities Board (the "AEUB") has issued Order U99053 dated June 7, 1999, providing for, among other things, the entering into of inter-company loans to enable NGTL to borrow funds from the Lender which are or may be payable in more than one year, provided that such borrowings are on terms and conditions no less favourable than NGTL could obtain directly in the marketplace and on terms consistent with and no more onerous than those obtained by the Lender from third parties;

Whereas NGTL has agreed to issue a promissory note to the Lender for Cdn. \$300,000,000.00, which amount does not include the costs of issuance borne by TransCanada and to be reimbursed by NGTL by separate letter agreement.

Now therefore:

For value received NGTL acknowledges itself indebted and promises to pay to the order of the Lender, at the principal office of the Lender, **three hundred million dollars**, in Canadian currency (Cdn. \$300,000,000.00) (the "Principal Sum") on January 31, 2010.

The Principal Sum shall bear an annual rate of interest of 7.52% and such interest shall be payable on January 31 and July 31 commencing July 31, 2000. Payments of the Principal Sum and interest are to be made in the lawful currency of Canada.

This Promissory Note ranks pari passu with all other unsecured and unsubordinated indebtedness of NGTL.

In case an Event of Default, as defined in Schedule "A" to this Promissory Note, shall have occurred and be continuing, then the Lender by notice in writing to NGTL may declare the

Principal Sum and accrued interest thereon to be due and payable immediately, and upon such declaration the same shall become immediately due and payable.

NGTL agrees that the holder of this Promissory Note is hereby granted and is entitled to (mutatis mutandi) the covenants of NGTL set forth in the Indenture dated as of September 15, 1992 between NOVA Corporation of Alberta (now NGTL) and BankAmerica Trust Company of New York (now First Trust of New York) to the same extent as if set forth herein. Without limiting the generality of the foregoing, a copy of the Article Eight and Article Ten of the Indenture are attached as Schedule "B" to this Promissory Note.

The Principal Sum may be repaid in whole or in part, at the option of NGTL at any time, or from time to time, after 30 days from January 31, 2000, on no less than 20 days and no more than 30 days notice to the Lender, at a price equal to higher of the Canada Yield Price (as defined below) and par, together with accrued and unpaid interest to the date fixed for repayment.

"Canada Yield Price" shall mean, in effect, a price equal to the outstanding amount under the Promissory Note calculated to provide a yield to maturity equal to the Government of Canada Yield (as defined below) plus 0.25% on the business day preceding the date of the resolution of NGTL authorizing the repayment.

"Government of Canada Yield" on any date shall mean, in effect, the yield to maturity on such date compounded semi-annually which a non-callable Government of Canada Bond would carry if issued, in Canadian Dollars in Canada, at 100% of its principal amount on such date with a term to maturity equal to the remaining term to maturity of the Promissory Note. The Government of Canada Yield will be the average of the yields determined by two major Canadian investment dealers selected by the Company.

This Promissory Note is made under and is governed by the laws of the Province of Alberta.

NOVA Transmission Ltd.
Per: [Signature]
Per: [Signature]

Receipt acknowledged and terms
accepted and agreed to as of January 31, 2000.

TransCanada PipeLines Limited

Per: [Signature]
Per: [Signature]

Schedule "A"

"Event of Default" means each one of the following events which shall have occurred and be continuing (whatever the reason for such Event of Default and whether it shall be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, decree or order of any court or any order, rule or regulation of any administrative or governmental body):

(a) default in the payment of any installment of interest on the Promissory Note as and when the same shall become due and payable, and continuance of such default for a period of 30 days; or

(b) default in the payment of all or any part of the principal on the Promissory Note as and when the same shall become due and payable either at maturity, upon any redemption, by declaration or otherwise; or

(c) a court having jurisdiction in the premises shall enter a decree or order for relief in respect of NGTL in an involuntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or appointing a receiver, receiver and manager, liquidator, assignee, custodian, trustee or sequestrator (or similar official) of NGTL or for any substantial part of its property or ordering the winding up or liquidation of its affairs, and such decree or order shall remain unstayed and in effect for a period of 60 consecutive days; or

(d) NGTL shall commence a voluntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or consent to the entry of an order for relief in an involuntary case under any such law, or consent to the appointment or taking possession by a receiver, receiver and manager, liquidator, assignee, custodian, trustee or sequestrator (or similar official) of NGTL or for any substantial part of its property, or make any general assignment for the benefit of creditors; or

(e) ~~Failure by NGTL to make any payment at maturity, including any applicable grace period, in respect of any issue of indebtedness in an aggregate amount in excess of U.S. \$50,000,000 or the equivalent thereof in any other currency and such failure shall have continued for a period of 30 days after written notice thereof shall have been given by the Lender to NGTL; or~~

(f) A default with respect to indebtedness, which default results in the acceleration of any issue of indebtedness in an aggregate amount in excess of U.S. \$50,000,000 or the equivalent thereof in any other currency without such indebtedness having been discharged or such acceleration having been cured, waived, rescinded or annulled for a period of 30 days after written notice thereof shall have been given by the Lender to NGTL.

provided that is any such failure, default or acceleration referred to in clause (e) or (f) above shall cease or be cured, waived, rescinded or annulled, then the Event of Default hereunder by reason thereof shall be deemed likewise to have been thereupon cured.

Schedule "B"

ARTICLE EIGHT

CONSOLIDATION, MERGER, CONVEYANCE, TRANSFER OR LEASE

SECTION 801. Company May Consolidate, Etc., Only on Certain Terms

The Company shall not amalgamate or consolidate with or merge into any other Person or convey, transfer or lease its properties and assets substantially as an entirety to any Person, unless:

- (1) the Person formed by such consolidation or amalgamation or into which the Company is merged or the Person which acquires by conveyance or transfer, or which leases, the properties and assets of the Company substantially as an entirety shall be a corporation, partnership or trust organized and existing under the laws of Canada or any province or territory thereof, the United States of America or any State thereof or the District of Columbia and shall expressly assume, by an indenture supplemental hereto, executed and delivered to the Trustee, in form satisfactory to the Trustee, the Company's obligation for the due and punctual payment of the principal of (and premium, if any) and interest on all the Securities and the performance of every covenant of this Indenture on the part of the Company to be performed or observed;
- (2) immediately after giving effect to such transaction, no Event of Default, and no event which, after notice or lapse of time or both, would become an Event of Default, shall have happened and be continuing; and
- (3) the Company has delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that such amalgamation, consolidation, merger, conveyance, transfer or lease and such supplemental indenture comply with this Article and that all conditions precedent herein provided for relating to such transaction have been complied with.

This Section shall only apply to a merger, amalgamation or consolidation in which the Company is not the surviving corporation and to conveyances, leases and transfers by the Company as transferor or lessor.

SECTION 802. Successor Person Substituted

Upon any amalgamation or consolidation by the Company with or merger by the Company into any other Person or any conveyance, transfer or lease of the properties and assets of the Company substantially as an entirety in accordance with Section 801, the successor Person formed by such amalgamation or consolidation or into which the Company is merged or to which such conveyance, transfer or lease is made shall succeed to, and be substituted for, and may exercise every right and power of, the Company under this Indenture with the same effect as if such successor corporation had been named as the Company herein, and in the event of any such conveyance or transfer, the Company (which term shall for this purpose mean the Person named as the "Company" in the first paragraph of this Indenture or any successor corporation which shall theretofore become such in the manner described in Section 801), except in the case of a lease, shall be discharged of all obligations and covenants under this Indenture and the Securities and the coupons and may be dissolved and liquidated.

SECTION 803. Securities to Be Secured in Certain Events

If, as a result of any such amalgamation or consolidation of the Company with or merger of the Company into any other Person, or upon any conveyance, lease or transfer of the property of the Company as an entirety or substantially as an entirety to any other Person, any properties or assets of the Company would become subject to a mortgage, pledge, charge, security interest or other encumbrance securing Debt, then unless such mortgage, pledge, charge, security interest or other encumbrance could be created without equally and ratably securing the Securities under Section 1006, the Company or such successor Person, as the case may be, prior to or simultaneously with such amalgamation, consolidation, merger, conveyance, lease or transfer, will, with respect to such properties or assets, secure the Securities Outstanding hereunder (together with, if the Company shall so determine, any other Debt of the Company now existing or hereafter created which is not subordinate to the Securities) equally and ratably with (or prior to) all such Debt which upon such amalgamation, consolidation, merger, conveyance, lease or transfer is to become secured as to such properties or assets, or will cause such Securities to be so secured; provided that for the purpose of providing such equal and rateable or prior security, the principal amount of Original Issue Discount Securities shall mean that amount which would at the time of making such effective provision be due and payable pursuant to Section 502 and the terms of such Original Issue Discount Securities upon a declaration of acceleration of the Maturity thereof, and the extent of such equal and rateable security shall be adjusted, to the extent permitted by law, as and when said amount changes over time pursuant to the terms of such Original Issue Discount Securities.

ARTICLE TEN
COVENANTS

SECTION 1001. Payment of Principal, Premium, if any, and Interest

The Company covenants and agrees for the benefit of each series of Securities that it will duly and punctually pay the principal of (and premium, if any) and interest on the Securities of that series in accordance with the terms of the Securities, any coupons appertaining thereto and this Indenture. Unless otherwise specified as contemplated by Section 301 with respect to any series of Securities, any interest due on Bearer Securities on or before Maturity shall be payable only upon presentation and surrender of the several coupons for such interest instalments as are evidenced thereby as they severally mature.

SECTION 1002. Maintenance of Office or Agency

If the Securities of a series are issuable only as Registered Securities, the Company will maintain in each Place of Payment for any series of Securities an office or agency where Securities of that series may be presented or surrendered for payment, where Securities of that series may be surrendered for registration of transfer or exchange and where notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be served.

If Securities of a series are issuable as Bearer Securities, the Company will maintain (A) in The City of New York, an office or agency where any Registered Securities of that series may be presented or surrendered for payment, where any Registered Securities of that series may be surrendered for registration of transfer, where Securities of that series may be surrendered for exchange, where notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be served and where Bearer Securities of that series and related coupons may be presented or surrendered for payment in the circumstances described in the following paragraph (and not otherwise); (B) subject to any laws or regulations applicable thereto, in a Place of Payment for that series which is located outside the United States, an office or agency where Securities of that series and related coupons may be presented and surrendered for payment; provided, however, that, if the Securities of that series are listed on any stock exchange located outside the United States and such stock exchange shall so require, the Company will maintain a Paying Agent for the Securities of that series in any required city located outside the United States so long as the Securities of that series are listed on such exchange, and (C) subject to any laws or regulations applicable thereto, in a Place of Payment for that series located outside the United States an office or agency where any Registered Securities of that series may be surrendered for registration of transfer, where Securities of that series may be surrendered for exchange and where notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be served. The Company will give prompt written notice to the Trustee of the location, and any change in the location, of such office or agency. If at any time the Company shall fail to maintain any such required office or agency or shall fail to furnish the Trustee with the address thereof, such presentations, surrenders, notices and demands may be made or served at the Corporate Trust Office of the Trustee, except that Bearer Securities of that series and the related coupons may be presented and surrendered for payment at the offices specified in the Security, in London, and the Company hereby appoints the same as its agent to receive such respective presentations, surrenders, notices and demands.

Unless otherwise specified with respect to any Securities pursuant to Section 301, no payment of principal, premium or interest on Bearer Securities shall be made at any office or agency of the Company in the United States or by check mailed to any address in the United States or by transfer to an account maintained with a bank located in the United States; provided, however, that, if the Securities of a series are payable in Dollars, payment of principal of and any premium and interest on any Bearer Security shall be made at the office of the Company's Paying Agent in The City of New York, if (but only if) payment in Dollars of the full amount of such principal, premium or interest, as the case may be, at all offices or agencies outside the United States maintained for the purpose by the Company in accordance with this Indenture is illegal or effectively precluded by exchange controls or other similar restrictions.

The Company may also from time to time designate one or more other offices or agencies where the Securities of one or more series may be presented or surrendered for any or all such purposes and may from time to time rescind such designations; provided, however, that no such designation or rescission shall in any manner relieve the Company of its obligation to maintain an office or agency in accordance with the requirements set forth above for Securities of any series for such purposes. The Company will give prompt written notice to the Trustee of any such designation or rescission and of any change in the location of any such other office or agency. Unless otherwise specified with respect to any Securities as contemplated by Section 301 with respect to a series of Securities, the Company hereby designates as a Place of Payment for each series of Securities the Borough of Manhattan, The City of New York, and initially appoints the Trustee at its Corporate Trust Office as Paying Agent in such Place of Payment and as its agent to receive all presentations, surrenders, notices and demands.

Unless otherwise specified with respect to any Securities pursuant to Section 301, if and so long as the Securities of any series (i) are denominated in a Currency other than Dollars or (ii) may be payable in a Currency other than Dollars, or so long as it is required under any other provision of the Indenture, then the Company will maintain with respect to each such series of Securities, or as so required, at least one Exchange Rate Agent

SECTION 1003. Money for Securities Payments to Be Held in Trust

If the Company shall at any time act as its own Paying Agent with respect to any series of Securities and any related coupons, it will, on or before each due date of the principal of (and premium, if any) or interest on any of the Securities of that series, segregate and hold in trust for the benefit of the Persons entitled thereto a sum in the Currency in which the Securities of such series are payable (except as otherwise specified pursuant to Section 301 for the Securities of such series and except, if applicable, as provided in Sections 312(b), 312(d) and 312(e)) sufficient to pay the principal (and premium, if any) or interest so becoming due until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee of its action or failure so to act.

Whenever the Company shall have one or more Paying Agents for any series of Securities and any related coupons, it will, prior to or on each due date of the principal of (and premium, if any) or interest on any Securities of that series, deposit with a Paying Agent a sum (in the Currency described in the preceding paragraph) sufficient to pay the principal (and premium, if any) or interest so becoming due, such sum to be held in trust for the benefit of the Persons entitled to such principal, premium or interest, and (unless such Paying Agent is the Trustee) the Company will promptly notify the Trustee of its action or failure so to act.

The Company will cause each Paying Agent (other than the Trustee) for any series of Securities to execute and deliver to the Trustee an instrument in which such Paying Agent shall agree with the Trustee, subject to the provisions of this Section, that such Paying Agent will:

- (1) hold all sums held by it for the payment of the principal of (and premium, if any) and interest on Securities of such series in trust for the benefit of the Persons entitled thereto until such sums shall be paid to such Persons or otherwise disposed of as herein provided;
- (2) give the Trustee notice of any default by the Company (or any other obligor upon the Securities of such series) in the making of any payment of principal of (or premium, if any) or interest on the Securities of such series; and
- (3) at any time during the continuance of any such default, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such Paying Agent.

The Company may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture or for any other purpose, pay, or by Company Order direct any Paying Agent to pay, to the Trustee all sums held in trust by the Company or such Paying Agent, such sums to be held by the Trustee upon the same trusts as those upon which sums were held by the Company or such Paying Agent; and, upon such payment by any Paying Agent to the Trustee, such Paying Agent shall be released from all further liability with respect to such sums.

Except as provided in the Securities of any series, any money deposited with the Trustee or any Paying Agent, or then held by the Company, in trust for the payment of the principal of (and premium, if any) or interest on any Security of any series and remaining unclaimed for two years after such principal (and premium, if any) or interest has become due and payable shall be paid to the Company on Company Request, or (if then held by the Company) shall be discharged from such trust; and the Holder of such Security shall thereafter, as an unsecured general creditor, look only to the Company for payment thereof, and all liability of the Trustee or such Paying Agent with respect to such trust money, and all liability of the Company as trustee thereof, shall thereupon cease; provided, however, that the Trustee or such Paying Agent, before being required to make any such repayment, may at the expense of the Company cause to be published once, in an Authorized Newspaper, notice that such money remains unclaimed and that, after a date specified therein, which shall not be less than 30 days from the date of such publication, any unclaimed balance of such money then remaining will be repaid to the Company.

SECTION 1004. Statement as to Compliance

The Company will deliver to the Trustee, within 120 days after the end of each fiscal year, a brief certificate from the principal executive officer, principal financial officer or principal accounting officer as to his or her knowledge of the Company's compliance with all conditions and covenants under this Indenture. For purposes of this Section 1004, such compliance shall be determined without regard to any period of grace or requirement of notice under this Indenture.

SECTION 1005. Corporate Existence

Subject to Article Eight, the Company will do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence and its rights (charter and statutory) and franchises;

provided, however, that the Company shall not be required to preserve any such right or franchise if the Company shall determine that the preservation thereof is no longer desirable in the conduct of the business of the Company and its Subsidiaries as a whole and that the loss thereof is not disadvantageous in any material respect to the Holders.

SECTION 1006. Negative Pledge

The Company will not mortgage, pledge, charge or otherwise encumber any of the assets of the Company to secure any Debt unless at the same time it shall secure equally and rateably with such Debt all of the Securities then Outstanding by the same instrument or by other instrument; provided that this covenant shall not hinder or prevent the sale of any property or asset of the Company (regardless of whether or not such sale precedes a lease back to the Company of such property or asset) or hinder or prevent:

- (i) the securing of any First Mortgage Bonds;
- (ii) the securing of any Purchase Money Obligations;
- (iii) the securing of Debt to any bank or banks or others incurred in the ordinary course of business and for the purpose of carrying on the same, repayable on demand or maturing, including any right of extension or renewal, within 24 months of the date when such Debt is incurred, if the security for such Debt is not given on fixed assets;
- (iv) the granting of any security, whether by way of letter of credit, surety bond or otherwise, which is posted or granted pursuant to a court order or agreement with a third Person in the context of a dispute by the Company of the claims by a third Person purportedly arising in the ordinary course of business of, or incident to current construction by, the Company; or
- (v) the deposit of cash, letters of credit, surety bonds, labor and material bonds, or any other security in connection with contracts or tenders in the ordinary course of business or to secure workmen's compensation, surety or appeal bonds, costs of litigation required by law, public and statutory obligations, liens or claims whether arising at common law, equity or pursuant to statute whether incident to current construction or otherwise, including but not limited to mechanics', workmen's, carriers' and other similar liens.

SECTION 1007. Waiver of Certain Covenants

The Company may omit in any particular instance to comply with any term, provision or condition set forth in Section 803, 1005 or 1006 if the Holders of at least a majority in principal amount of all Outstanding Securities affected by such term, provision or covenant by Act of such Holders, waive such compliance in such instance with such term, provision or condition, but no such waiver shall extend to or affect such term, provision or condition except to the extent so expressly waived, and, until such waiver shall become effective, the obligations of the Company and the duties of the Trustee in respect of any such term, provision or condition shall remain in full force and effect.



January 31, 2000

To: NOVA Gas Transmission Ltd.

Dear Sir / Madam:

Please arrange to reimburse us for \$1,200,000.00 in indirect third party costs incurred in relation to our C\$300,000,000 loan to you as of today's date.

Pursuant to our letter agreement dated January 14, 2000, NGTL shall pay the lesser of the following:

i) NGTL's pro-rata share of TransCanada's third party borrowing costs:

Total third party costs incurred in relation to long-term borrowing by TransCanada during 12 month period ending December 31, 1999:	C\$7,640,674
Total long-term borrowing by TransCanada during 12 month period ending December 31, 1999:	C\$1,002,756,674
Total third party costs as a percentage of total long-term borrowing	0.762%
Amount Lent to NGTL	C\$300,000,000
Total third party costs payable by NGTL	C\$ 2,286,000

i) Third party financing costs that would have been incurred by NGTL

Applicable commission rate for Canadian dollar borrowings from NGTL's most recent [Selling Agency Agreement]	0.40%
Amount Lent to NGTL	C\$300,000,000
Total third party costs payable by NGTL	C\$ 1,200,000

Yours truly,

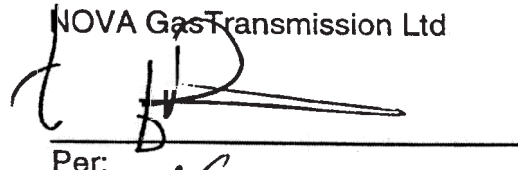
TransCanada PipeLines Limited

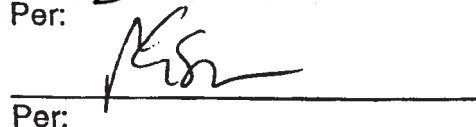

Per:


Per:

Acknowledged and Agreed

NOVA Gas Transmission Ltd


Per:


Per:



TransCanada

June 15, 1999

TransCanada PipeLines Tower
111 – 5th Avenue S.W.
Calgary, Alberta, Canada T2P 3Y6

NOVA Gas Transmission Ltd.
111 – 5 Avenue S.W.
P.O. Box 1000, Station M
Calgary, Alberta
T2P 4K5

Dear Sirs:

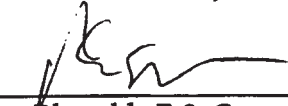
Attached is a Promissory Note for US\$200,000,000.00 reflecting the terms of your borrowing from us as of June 15, 1999. Please sign and return one copy.

In addition, would you please arrange to reimburse us for the net commission of US\$1,625,000.00 (being a gross commission of US\$1,750,000.00 less a discount of US\$125,000.00) and costs of the issue for which we will invoice you.

Yours very truly,

TransCanada PipeLines Limited


per: 
Robert J. Pitt
Vice President, Finance Law

per: 
Rhondda E.S. Grant
Vice President & Corporate Secretary

Acknowledged and agreed to
this 15th day of June 1999

NOVA Gas Transmission Ltd.

per: 

per: 

Calgary, Alberta

Principal Amount (U.S.\$):	\$200,000,000.00
Issue Date:	June 15, 1999
Issue Price (%):	99.872
Net Proceeds (U.S.\$):	\$197,994,000.00
Maturity Date:	June 15, 2029
Interest Rate per Annum:	7.70%

NOVA Gas Transmission Ltd. ("NGTL")

Promissory Note

Whereas NGTL wishes to obtain a portion of its long term capital markets debt financing through its parent, TransCanada PipeLines Limited (the "Lender");

Whereas the Alberta Energy and Utilities Board (the "AEUB") has issued Order U99053 dated June 7, 1999, providing for, among other things, the entering into of inter-company loans to enable NGTL to borrow funds from the Lender which are or may be payable in more than one year, provided that such borrowings are on terms and conditions no less favourable than NGTL could obtain directly in the marketplace and on terms consistent with and no more onerous than those obtained by the Lender from third parties;

Whereas on June 15, 1999 the Lender borrowed funds for and on behalf of NGTL in the principal amount of two hundred million dollars in United States currency (US \$200,000,000.00), under its US Medium Term Note Program as evidenced by the Note Certificate registered as CUSIP No. 89352L AG5 (the "Medium Term Notes") attached as Schedule "A" to this Promissory Note;

Whereas the US \$200,000,000.00 Medium Term Note issued by the Lender was issued at a discount issue price of 99.872% for net proceeds of US \$197,994,000.00 and NGTL has agreed to issue a promissory note to the Lender for US \$200,000,000.00 at a discount issue price of 99.872% for net proceeds of US \$197,994,000.00.

Now therefore:

For value received NGTL acknowledges itself indebted and promises to pay to the order of the Lender, at the principal office of the Lender, **two hundred million dollars** in United States currency (US \$200,000,000.00) (the "Principal Sum") on June 15, 2029.

The Principal Sum shall bear an annual rate of interest of 7.70% and such interest shall be calculated in the same manner and shall be payable on the same dates as provided for in Schedule "A".

This Promissory Note ranks pari passu with all other unsecured and unsubordinated indebtedness of NGTL.

The Principal Sum may be repaid in whole or in part, at the option of NGTL at any time, or from time to time, after 30 days from June 15, 1999, at a prepayment price equal to the redemption price set forth in Schedule "A".

NGTL may, at any time, purchase Medium Term Notes issued by the Lender at any price or prices in the open market or otherwise. Medium Term Notes so purchased by NGTL may be held or resold or, at the discretion of NGTL, may be surrendered to the Lender as a prepayment of an equivalent principal amount of this Promissory Note. A prepayment by NGTL pursuant to this paragraph shall not bear any prepayment price or redemption price premium.

Payments of the Principal Sum and interest are to be made in the lawful currency of the United States of America.

In case an Event of Default, as defined in Schedule "B" to this Promissory Note, shall have occurred and be continuing, then the Lender by notice in writing to NGTL may declare the Principal Sum and accrued interest thereon to be due and payable immediately, and upon such declaration the same shall become immediately due and payable.

NGTL agrees that the holder of this Promissory Note is hereby granted and is entitled to (mutatis mutandi) the covenants of NGTL set forth in the Indenture dated as of September 15, 1992 between NOVA Corporation of Alberta (now NGTL) and BankAmerica Trust Company of New York (now First Trust of New York) to the same extent as if set forth herein. Without limiting the generality of the foregoing, a copy of the Article Eight and Article Ten of the Indenture are attached as Schedule "C" to this Promissory Note.

This Promissory Note is made under and is governed by the laws of the Province of Alberta.

NOVA Gas Transmission Ltd.

Per: Brian Murray

Per: [Signature]

Receipt acknowledged and terms accepted and agreed to as of June 15, 1999.

TransCanada PipeLines Limited

Per: Robert Pitt

Per: [Signature]

Schedule "A"

Pricing Supplement No. 3 dated June 10, 1999,
(To prospectus dated November 13, 1998 and a
prospectus supplement dated November 19, 1998)

CUSIP #89352L AG5



TransCanada
Medium Term Notes
Fixed Rate
(Unsecured)

TransCanada PipeLines Limited

NEW LISTINGS &
CIPPP/PATF 11/15/99

1999 JUN 15 1 P 4: 12

Principal Amount (U.S. \$): \$200,000,000
Original Issue Date: June 15, 1999
Issue Price (%): 99.872
Agent Commission or Discount (%): 0.875
Net Proceeds (U.S. \$): \$197,994,000
Maturity Date: June 15, 2029
Redemption Provisions:

The Medium Term Notes offered hereby (the "Notes") will be unsubordinated obligations of TransCanada PipeLines Limited (the "Company") and will be redeemable in whole or in part, at the option of the Company at any time, or from time to time, after 30 days from the Original Issue Date at a redemption price equal to the greater of (i) 100% of the principal amount of such Notes or (ii) as determined by an Independent Investment Banker (as defined below), the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted, on a semiannual basis, at the Adjusted Treasury Rate (as defined below), together with accrued interest to the date of redemption. Interest shall be calculated on the basis of a 360 day year consisting of twelve 30-day months.

Agents:

Morgan Stanley & Co. Incorporated
Credit Suisse First Boston Corporation
Merrill Lynch & Co.
Salomon Smith Barney Inc.

Agent's Capacity:

Morgan Stanley & Co. Incorporated	Agent	<u> X </u>	Principal
Credit Suisse First Boston Corporation	Agent	<u> X </u>	Principal
Merrill Lynch & Co.	Agent	<u> X </u>	Principal
Salomon Smith Barney Inc.	Agent	<u> X </u>	Principal
Form of Notes:	<u> </u> Certified	<u> X </u>	Book-Entry
Interest Rate per Annum:	7.70%		
Interest Payment Dates:	June 15 and December 15, commencing December 15, 1999		

- 2 -

Record Dates: May 31, and November 30, as the case may be, preceding such Interest Payment Date

Documents Incorporated by Reference

The following is a list of the documents which have been filed with the Alberta Securities Commission and which are specifically incorporated by reference in and form an integral part of the prospectus dated November 13, 1998 (the "Prospectus") as supplemented by the prospectus supplement dated November 19, 1998 (the "Prospectus Supplement"):

- (a) the comparative audited consolidated financial statements of the Company for the year ended December 31, 1998, together with the auditors' report thereon, and, filed as an exhibit thereto, updated Interest and Asset Coverage Ratios; and
- (b) the Annual Information Form of the Company dated March 2, 1999;
- (c) the Company's Management Proxy Circular dated March 2, 1999 (excluding those portions thereof under the captions "Composition of the Human Resources Committee", "Report on Executive Compensation" and "Performance Graphs" which, pursuant to National Policy 47 of the Canadian Securities Administrators, are not required to be incorporated by reference in the Prospectus); and
- (d) the interim unaudited consolidated financial statements of the Company for the period ended March 31, 1999 and, filed as an exhibit thereto, updated Interest and Asset Coverage Ratios.

Other Provisions

Redemption: The Notes will be redeemable in whole or in part, at the option of the Company at any time, or from time to time, in increments of US \$1,000 (provided that any remaining principal amount shall not be less than US \$1,000) after 30 days from the Original Issue Date at a redemption price equal to the greater of (i) 100% of the principal amount of such Notes or (ii) as determined by an Independent Investment Banker (as defined below), the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted, on a semiannual basis, at the Adjusted Treasury Rate (as defined below), together with accrued interest to the date of redemption. Interest shall be calculated on the basis of a 360 day year consisting of twelve 30-day months.

"Adjusted Treasury Rate" means, with respect to any redemption date, the rate per annum equal to the semiannual equivalent yield to maturity of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for such redemption date, plus 25 basis points.

"Comparable Treasury Issue" means the United States Treasury security selected by an Independent Investment Banker as having a maturity comparable to the remaining term of the Notes to be redeemed that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of such Notes.

"Comparable Treasury Price" means, with respect to any redemption date, (A) the average of Reference Treasury Dealer Quotations for such redemption date, after excluding the highest and lowest such Reference Treasury Dealer Quotations, or (B) if the Trustee obtains fewer than three such Reference Treasury Dealer Quotations, the average of all such Quotations. "Reference Treasury Dealer

- 3 -

Quotations means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by the Trustee, of the bid and asked price of the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Trustee by such Treasury Reference Dealer at 5:00 p.m. on the third Business Day preceding such redemption date.

Independent Investment Banker means one of the Reference Treasury Dealers appointed by the Trustee after consultation with the Company.

Reference Treasury Dealer means each of Morgan Stanley & Co. Incorporated, Credit Suisse First Boston Corporation, Merrill Lynch, Pierce, Fenner & Smith Incorporated, Salomon Smith Barney Inc. and their respective successors; provided, however, that if any of the foregoing shall cease to be a primary US Government securities dealer in New York City (a "Primary Treasury Dealer"), the Company shall substitute therefor another Primary Treasury Dealer.

The Company may exercise its option to redeem the Notes by causing the Trustee to mail a notice of such redemption to the Holders of such Notes not later than 30 days, but not earlier than 60 days, prior to the date of redemption. In the event of redemption of such Notes in part only, a new Note or Notes for the unredeemed portion thereof shall be issued in the name of the Holder thereof upon the cancellation thereof. If less than all of such Notes with like tenor and terms to such Note are to be redeemed, the Notes shall be selected by the Trustee by such method as the Trustee shall deem fair and appropriate.

Unless the Company defaults in payment of the redemption price, on and after the redemption date, interest will cease to accrue on the Notes, or portions thereof, called for redemption.

The Company may, at any time, purchase Notes at any price or prices in the open market or otherwise. Notes so purchased by the Company may be held or resold or, at the discretion of the Company, may be surrendered to the Trustee for cancellation.

The Notes will not be entitled to the benefit of a sinking fund.

Schedule "B"

"Event of Default" means each one of the following events which shall have occurred and be continuing (whatever the reason for such Event of Default and whether it shall be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, decree or order of any court or any order, rule or regulation of any administrative or governmental body):

(a) default in the payment of any installment of interest on the Promissory Note as and when the same shall become due and payable, and continuance of such default for a period of 30 days; or

(b) default in the payment of all or any part of the principal on the Promissory Note as and when the same shall become due and payable either at maturity, upon any redemption, by declaration or otherwise; or

(c) a court having jurisdiction in the premises shall enter a decree or order for relief in respect of NGTL in an involuntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or appointing a receiver, receiver and manager, liquidator, assignee, custodian, trustee or sequestrator (or similar official) of NGTL or for any substantial part of its property or ordering the winding up or liquidation of its affairs, and such decree or order shall remain unstayed and in effect for a period of 60 consecutive days; or

(d) NGTL shall commence a voluntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or consent to the entry of an order for relief in an involuntary case under any such law, or consent to the appointment or taking possession by a receiver, receiver and manager, liquidator, assignee, custodian, trustee or sequestrator (or similar official) of NGTL or for any substantial part of its property, or make any general assignment for the benefit of creditors; or

(e) Failure by NGTL to make any payment at maturity, including any applicable grace period, in respect of any issue of indebtedness in an aggregate amount in excess of U.S. \$50,000,000 or the equivalent thereof in any other currency and such failure shall have continued for a period of 30 days after written notice thereof shall have been given by the Lender to NGTL; or

(f) A default with respect to indebtedness, which default results in the acceleration of any issue of indebtedness in an aggregate amount in excess of U.S. \$50,000,000 or the equivalent thereof in any other currency without such indebtedness having been discharged or such acceleration having been cured, waived, rescinded or annulled for a period of 30 days after written notice thereof shall have been given by the Lender to NGTL.

provided that in any such failure, default or acceleration referred to in clause (e) or (f) above shall cease or be cured, waived, rescinded or annulled, then the Event of Default hereunder by reason thereof shall be deemed likewise to have been thereupon cured.

Schedule "C"

ARTICLE EIGHT

CONSOLIDATION, MERGER, CONVEYANCE, TRANSFER OR LEASE

SECTION 801. Company May Consolidate, Etc., Only on Certain Terms

The Company shall not amalgamate or consolidate with or merge into any other Person or convey, transfer or lease its properties and assets substantially as an entirety to any Person, unless:

- (1) the Person formed by such consolidation or amalgamation or into which the Company is merged or the Person which acquires by conveyance or transfer, or which leases, the properties and assets of the Company substantially as an entirety shall be a corporation, partnership or trust organized and existing under the laws of Canada or any province or territory thereof, the United States of America or any State thereof or the District of Columbia and shall expressly assume, by an indenture supplemental hereto, executed and delivered to the Trustee, in form satisfactory to the Trustee, the Company's obligation for the due and punctual payment of the principal of (and premium, if any) and interest on all the Securities and the performance of every covenant of this Indenture on the part of the Company to be performed or observed;
- (2) immediately after giving effect to such transaction, no Event of Default, and no event which, after notice or lapse of time or both, would become an Event of Default, shall have happened and be continuing; and
- (3) the Company has delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that such amalgamation, consolidation, merger, conveyance, transfer or lease and such supplemental indenture comply with this Article and that all conditions precedent herein provided for relating to such transaction have been complied with.

This Section shall only apply to a merger, amalgamation or consolidation in which the Company is not the surviving corporation and to conveyances, leases and transfers by the Company as transferor or lessor.

SECTION 802. Successor Person Substituted

Upon any amalgamation or consolidation by the Company with or merger by the Company into any other Person or any conveyance, transfer or lease of the properties and assets of the Company substantially as an entirety in accordance with Section 801, the successor Person formed by such amalgamation or consolidation or into which the Company is merged or to which such conveyance, transfer or lease is made shall succeed to, and be substituted for, and may exercise every right and power of, the Company under this Indenture with the same effect as if such successor corporation had been named as the Company herein, and in the event of any such conveyance or transfer, the Company (which term shall for this purpose mean the Person named as the "Company" in the first paragraph of this Indenture or any successor corporation which shall theretofore become such in the manner described in Section 801), except in the case of a lease, shall be discharged of all obligations and covenants under this Indenture and the Securities and the coupons and may be dissolved and liquidated.

SECTION 803. Securities to Be Secured in Certain Events

If, as a result of any such amalgamation or consolidation of the Company with or merger of the Company into any other Person, or upon any conveyance, lease or transfer of the property of the Company as an entirety or substantially as an entirety to any other Person, any properties or assets of the Company would become subject to a mortgage, pledge, charge, security interest or other encumbrance securing Debt, then unless such mortgage, pledge, charge, security interest or other encumbrance could be created without equally and ratably securing the Securities under Section 1006, the Company or such successor Person, as the case may be, prior to or simultaneously with such amalgamation, consolidation, merger, conveyance, lease or transfer, will, with respect to such properties or assets, secure the Securities Outstanding hereunder (together with, if the Company shall so determine, any other Debt of the Company now existing or hereafter created which is not subordinate to the Securities) equally and ratably with (or prior to) all such Debt which upon such amalgamation, consolidation, merger, conveyance, lease or transfer is to become secured as to such properties or assets, or will cause such Securities to be so secured; provided that for the purpose of providing such equal and rateable or prior security, the principal amount of Original Issue Discount Securities shall mean that amount which would at the time of making such effective provision be due and payable pursuant to Section 502 and the terms of such Original Issue Discount Securities upon a declaration of acceleration of the Maturity thereof, and the extent of such equal and ratable security shall be adjusted, to the extent permitted by law, as and when said amount changes over time pursuant to the terms of such Original Issue Discount Securities.

**ARTICLE TEN
COVENANTS****SECTION 1001. Payment of Principal, Premium, if any, and Interest**

The Company covenants and agrees for the benefit of each series of Securities that it will duly and punctually pay the principal of (and premium, if any) and interest on the Securities of that series in accordance with the terms of the Securities, any coupons appertaining thereto and this Indenture. Unless otherwise specified as contemplated by Section 301 with respect to any series of Securities, any interest due on Bearer Securities on or before Maturity shall be payable only upon presentation and surrender of the several coupons for such interest instalments as are evidenced thereby as they severally mature.

SECTION 1002. Maintenance of Office or Agency

If the Securities of a series are issuable only as Registered Securities, the Company will maintain in each Place of Payment for any series of Securities an office or agency where Securities of that series may be presented or surrendered for payment, where Securities of that series may be surrendered for registration of transfer or exchange and where notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be served.

If Securities of a series are issuable as Bearer Securities, the Company will maintain (A) in The City of New York, an office or agency where any Registered Securities of that series may be presented or surrendered for payment, where any Registered Securities of that series may be surrendered for registration of transfer, where Securities of that series may be surrendered for exchange, where notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be served and where Bearer Securities of that series and related coupons may be presented or surrendered for payment in the circumstances described in the following paragraph (and not otherwise); (B) subject to any laws or regulations applicable thereto, in a Place of Payment for that series which is located outside the United States, an office or agency where Securities of that series and related coupons may be presented and surrendered for payment; provided, however, that, if the Securities of that series are listed on any stock exchange located outside the United States and such stock exchange shall so require, the Company will maintain a Paying Agent for the Securities of that series in any required city located outside the United States so long as the Securities of that series are listed on such exchange, and (C) subject to any laws or regulations applicable thereto, in a Place of Payment for that series located outside the United States an office or agency where any Registered Securities of that series may be surrendered for registration of transfer, where Securities of that series may be surrendered for exchange and where notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be served. The Company will give prompt written notice to the Trustee of the location, and any change in the location, of such office or agency. If at any time the Company shall fail to maintain any such required office or agency or shall fail to furnish the Trustee with the address thereof, such presentations, surrenders, notices and demands may be made or served at the Corporate Trust Office of the Trustee, except that Bearer Securities of that series and the related coupons may be presented and surrendered for payment at the offices specified in the Security, in London, and the Company hereby appoints the same as its agent to receive such respective presentations, surrenders, notices and demands.

Unless otherwise specified with respect to any Securities pursuant to Section 301, no payment of principal, premium or interest on Bearer Securities shall be made at any office or agency of the Company in the United States or by check mailed to any address in the United States or by transfer to an account maintained with a bank located in the United States; provided, however, that, if the Securities of a series are payable in Dollars, payment of principal of and any premium and interest on any Bearer Security shall be made at the office of the Company's Paying Agent in The City of New York, if (but only if) payment in Dollars of the full amount of such principal, premium or interest, as the case may be, at all offices or agencies outside the United States maintained for the purpose by the Company in accordance with this Indenture is illegal or effectively precluded by exchange controls or other similar restrictions.

The Company may also from time to time designate one or more other offices or agencies where the Securities of one or more series may be presented or surrendered for any or all such purposes and may from time to time rescind such designations; provided, however, that no such designation or rescission shall in any manner relieve the Company of its obligation to maintain an office or agency in accordance with the requirements set forth above for Securities of any series for such purposes. The Company will give prompt written notice to the Trustee of any such designation or rescission and of any change in the location of any such other office or agency. Unless otherwise specified with respect to any Securities as contemplated by Section 301 with respect to a series of Securities, the Company hereby designates as a Place of Payment for each series of Securities the Borough of Manhattan, The City of New York, and initially appoints the Trustee at its Corporate Trust Office as Paying Agent in such Place of Payment and as its agent to receive all presentations, surrenders, notices and demands.

Unless otherwise specified with respect to any Securities pursuant to Section 301, if and so long as the Securities of any series (i) are denominated in a Currency other than Dollars or (ii) may be payable in a Currency other than Dollars, or so long as it is required under any other provision of the Indenture, then the Company will maintain with respect to each such series of Securities, or as so required, at least one Exchange Rate Agent.

SECTION 1003. Money for Securities Payments to Be Held in Trust

If the Company shall at any time act as its own Paying Agent with respect to any series of Securities and any related coupons, it will, on or before each due date of the principal of (and premium, if any) or interest on any of the Securities of that series, segregate and hold in trust for the benefit of the Persons entitled thereto a sum in the Currency in which the Securities of such series are payable (except as otherwise specified pursuant to Section 301 for the Securities of such series and except, if applicable, as provided in Sections 312(b), 312(d) and 312(e)) sufficient to pay the principal (and premium, if any) or interest so becoming due until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee of its action or failure so to act.

Whenever the Company shall have one or more Paying Agents for any series of Securities and any related coupons, it will, prior to or on each due date of the principal of (and premium, if any) or interest on any Securities of that series, deposit with a Paying Agent a sum (in the Currency described in the preceding paragraph) sufficient to pay the principal (and premium, if any) or interest so becoming due, such sum to be held in trust for the benefit of the Persons entitled to such principal, premium or interest, and (unless such Paying Agent is the Trustee) the Company will promptly notify the Trustee of its action or failure so to act.

The Company will cause each Paying Agent (other than the Trustee) for any series of Securities to execute and deliver to the Trustee an instrument in which such Paying Agent shall agree with the Trustee, subject to the provisions of this Section, that such Paying Agent will:

- (1) hold all sums held by it for the payment of the principal of (and premium, if any) and interest on Securities of such series in trust for the benefit of the Persons entitled thereto until such sums shall be paid to such Persons or otherwise disposed of as herein provided;
- (2) give the Trustee notice of any default by the Company (or any other obligor upon the Securities of such series) in the making of any payment of principal of (or premium, if any) or interest on the Securities of such series; and
- (3) at any time during the continuance of any such default, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such Paying Agent.

The Company may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture or for any other purpose, pay, or by Company Order direct any Paying Agent to pay, to the Trustee all sums held in trust by the Company or such Paying Agent, such sums to be held by the Trustee upon the same trusts as those upon which sums were held by the Company or such Paying Agent; and, upon such payment by any Paying Agent to the Trustee, such Paying Agent shall be released from all further liability with respect to such sums.

Except as provided in the Securities of any series, any money deposited with the Trustee or any Paying Agent, or then held by the Company, in trust for the payment of the principal of (and premium, if any) or interest on any Security of any series and remaining unclaimed for two years after such principal (and premium, if any) or interest has become due and payable shall be paid to the Company on Company Request, or (if then held by the Company) shall be discharged from such trust; and the Holder of such Security shall thereafter, as an unsecured general creditor, look only to the Company for payment thereof, and all liability of the Trustee or such Paying Agent with respect to such trust money, and all liability of the Company as trustee thereof, shall thereupon cease; provided, however, that the Trustee or such Paying Agent, before being required to make any such repayment, may at the expense of the Company cause to be published once, in an Authorized Newspaper, notice that such money remains unclaimed and that, after a date specified therein, which shall not be less than 30 days from the date of such publication, any unclaimed balance of such money then remaining will be repaid to the Company.

SECTION 1004. Statement as to Compliance

The Company will deliver to the Trustee, within 120 days after the end of each fiscal year, a brief certificate from the principal executive officer, principal financial officer or principal accounting officer as to his or her knowledge of the Company's compliance with all conditions and covenants under this Indenture. For purposes of this Section 1004, such compliance shall be determined without regard to any period of grace or requirement of notice under this Indenture.

SECTION 1005. Corporate Existence

Subject to Article Eight, the Company will do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence and its rights (charter and statutory) and franchises;

provided, however, that the Company shall not be required to preserve any such right or franchise if the Company shall determine that the preservation thereof is no longer desirable in the conduct of the business of the Company and its Subsidiaries as a whole and that the loss thereof is not disadvantageous in any material respect to the Holders.

SECTION 1006. Negative Pledge

The Company will not mortgage, pledge, charge or otherwise encumber any of the assets of the Company to secure any Debt unless at the same time it shall secure equally and rateably with such Debt all of the Securities then Outstanding by the same instrument or by other instrument; provided that this covenant shall not hinder or prevent the sale of any property or asset of the Company (regardless of whether or not such sale precedes a lease back to the Company of such property or asset) or hinder or prevent:

- (i) the securing of any First Mortgage Bonds;
- (ii) the securing of any Purchase Money Obligations;
- (iii) the securing of Debt to any bank or banks or others incurred in the ordinary course of business and for the purpose of carrying on the same, repayable on demand or maturing, including any right of extension or renewal, within 24 months of the date when such Debt is incurred, if the security for such Debt is not given on fixed assets;
- (iv) the granting of any security, whether by way of letter of credit, surety bond or otherwise, which is posted or granted pursuant to a court order or agreement with a third Person in the context of a dispute by the Company of the claims by a third Person purportedly arising in the ordinary course of business of, or incident to current construction by, the Company; or
- (v) the deposit of cash, letters of credit, surety bonds, labor and material bonds, or any other security in connection with contracts or tenders in the ordinary course of business or to secure workmen's compensation, surety or appeal bonds, costs of litigation required by law, public and statutory obligations, liens or claims whether arising at common law, equity or pursuant to statute whether incident to current construction or otherwise, including but not limited to mechanics', workmen's, carriers' and other similar liens.

SECTION 1007. Waiver of Certain Covenants

The Company may omit in any particular instance to comply with any term, provision or condition set forth in Section 803, 1005 or 1006 if the Holders of at least a majority in principal amount of all Outstanding Securities affected by such term, provision or covenant by Act of such Holders, waive such compliance in such instance with such term, provision or condition, but no such waiver shall extend to or affect such term, provision or condition except to the extent so expressly waived, and, until such waiver shall become effective, the obligations of the Company and the duties of the Trustee in respect of any such term, provision or condition shall remain in full force and effect.

CAPP-NGTL-025(a)

Issue:

Allowed interest rates.

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Sub-Section 2.2, Page 2 of 3, lines 14 to17.

Preamble:

NGTL identifies three debt series where a portion of the interest expense was disallowed by the Alberta Public Utilities Board.

Request:

Please summarize the reasons that the regulator disallowed a portion of the interest costs.

Response:

In Decision E92086, the Public Utilities Board (PUB) disallowed a portion of the interest expense relating to debenture series 19, 20 and 21 due to a determination of long term debt costs on a stand alone basis. The PUB determined that NGTL would have been able to issue debt at rates consistent with a higher bond rating as a stand alone utility. Accordingly, the yield spread difference was estimated by the regulator and the associated interest was disallowed from the applied for cost of long term debt.

CAPP-NGTL-025(b)

Issue:

Allowed interest rates.

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Sub-Section 2.2, Page 2 of 3, lines 14 to 17.

Preamble:

NGTL identifies three debt series where a portion of the interest expense was disallowed by the Alberta Public Utilities Board.

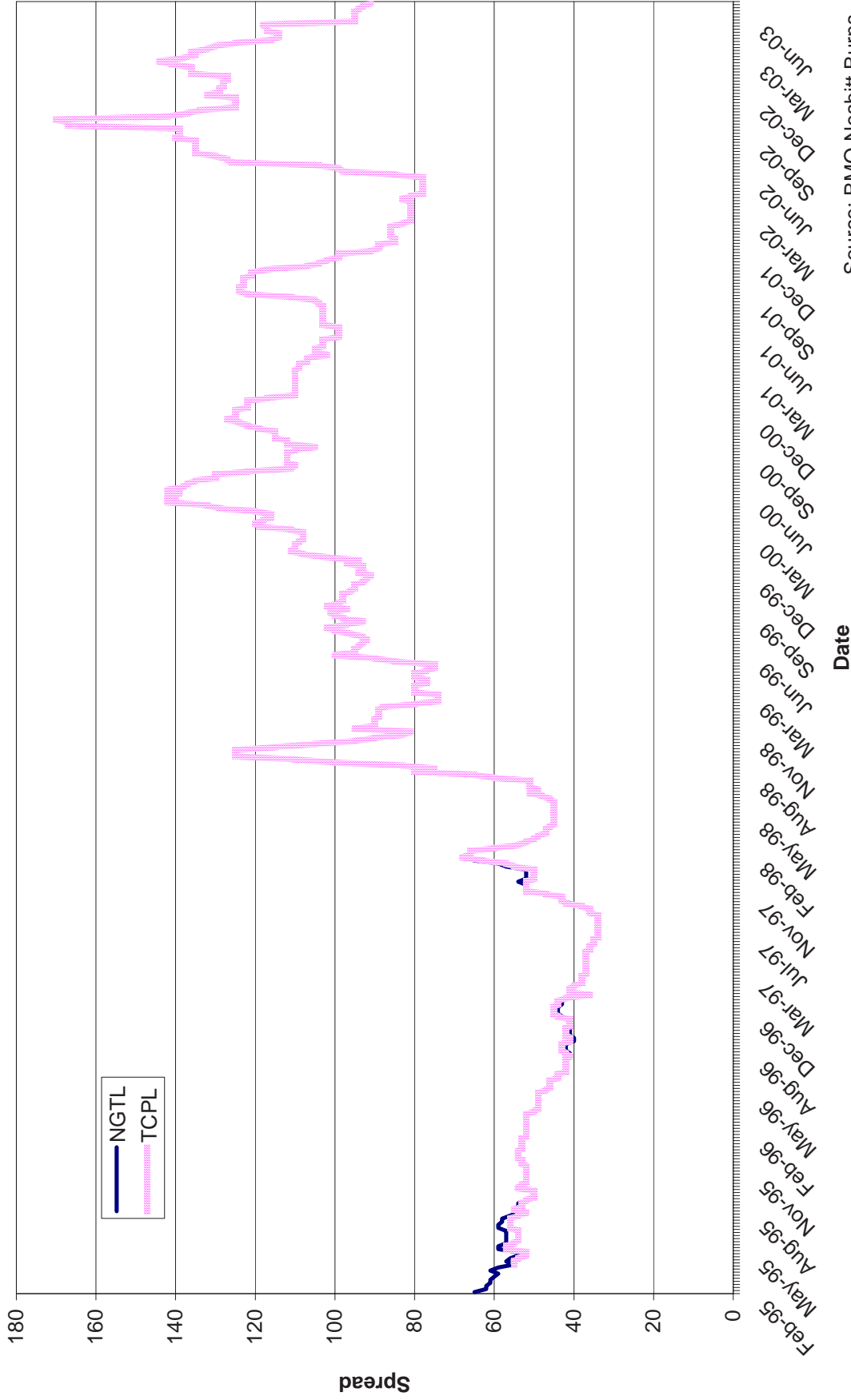
Request:

Please provide the historical spreads from 1990 to 2003 between the interest rates of NGTL debt and Government of Canada Bonds of similar term.

Response:

Please refer to Attachment CAPP-NGTL-025(b). Spread data prior to 1995 is not available. Spread data after the merger with TCPL in July 1998 is provided for TCPL 10-year bonds. NGTL understands that the marketplace has priced NGTL and TCPL bonds at the same level since the merger.

NGTL: 10-Year Bond Spread Comparison



CAPP-NGTL-026

Issue:

Debt Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.2 Sheets 1, 2 and 3 of 3.

Request:

Please describe how corporate debt is allocated to NGTL and the other regulated and non-regulated entities in TransCanada Corporation.

Response:

The cost of debt issued by TCPL to NGTL is based on the market cost of debt to TCPL for the relevant term. If TCPL has raised long-term third party debt for NGTL, it passes on the cost of that debt. If long-term debt has not been raised from a third party, TCPL prices such debt using market rates provided by investment dealers. The cost of short term debt is equal to TCPL's monthly average commercial paper rate.

The cost of long-term debt is not allocated. It is paid by NGTL to TCPL in accordance to the terms of the relevant promissory note. Interest on short-term intercompany balances is charged by TCPL to NGTL. This charge is calculated monthly, based on the average of the opening and closing short-term intercompany balances for the month.

TCPL does not allocate debt or interest costs to its non-regulated businesses.

CAPP-NGTL-027(a)

REVISED February 2004

Issue:

Debt Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.1 Sheet 1 of 1.

Preamble:

NGTL lists unfunded debt of approximately \$203 million.

Request:

Please provide a schedule of unfunded debt showing amounts outstanding by month.

Response:

As per the February 2004 Update, Unfunded debt for the Test Year ending December 31, 2004, by month, is as follows:

As at	Jan 1	Jan 31	Feb 29	Mar 31	Apr 30	May 31	Jun 30	Jul 31	Aug 31	Sep 30	Oct 31	Nov 30	Dec 31	Avg
\$ Millions	247 <u>241</u>	234 <u>226</u>	221 <u>213</u>	211 <u>205</u>	215 <u>209</u>	202 <u>196</u>	194 <u>189</u>	181 <u>176</u>	168 <u>163</u>	157 <u>153</u>	159 <u>155</u>	149 <u>146</u>	302 <u>299</u>	203 <u>198</u>

CAPP-NGTL-027(b)

Issue:

Debt Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.1 Sheet 1 of 1.

Preamble:

NGTL lists unfunded debt of approximately \$203 million.

Request:

Please show how unfunded debt is allocated between the Alberta System, Mainline, B.C. System, Foothills and Other including showing the total corporate unfunded debt position.

Response:

Unfunded debt is not allocated. Unfunded debt is a term used to describe the residual amount of the debt portion of the deemed capital structure underpinning rate base which is not funded by long term debt.

CAPP-NGTL-028

Issue:

Amortization of Long Term Debt Issue Expense.

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 2.2, Schedule 2.2.4 Sheet 3 of 3 and Section 2.5, Schedule 2.5.1, Sheet 1 of 1.

Preamble:

The two tables referenced describe amortization of debt issue expense for accounting purposes and for tax purposes respectively.

Request:

- (a) Please provide, for both Schedules, the issue and maturity dates of each debt issue.
- (b) Please provide detailed schedules to support the tax amortization of debt issue costs.

Response:

- (a) Please refer to the response to CAPP-NGTL-023(a).
- (b) The 2003 and 2004 amortization of Debt Issue Cost amounts of \$(733,000) and \$(715,000), respectively, on Line 9 of Schedule 2.5.1 were not correct and should have been \$(715,000) and \$(240,000), respectively. The revenue requirement impact of these corrections is not material. The requested information incorporating the corrected 2003 and 2004 amounts is provided in Attachment CAPP-NGTL-028(b) [and have been corrected in Schedule 2.5.1 of the February 2004 Update](#).

TAX AMORTIZATION OF LONG TERM DEBT ISSUE COSTS
(\$ Thousands)

LINE NO.	DESCRIPTION (a)	ISSUE DATE (b)	MATURITY DATE (c)	TAX ISSUE COSTS (d)	UNAMORT. BALANCE 31-Dec-01 (e)	TAX AMORT 2002 (f)	TAX AMORT 2003 (g)	TAX AMORT 2004 (h)	UNAMORT. BALANCE 31-Dec-04 (i)
1	7.7% U.S. \$200 MM	15-Jun-99	15-Jun-29	2,375	950	475	475	-	-
2	6.30% \$100MM MTN#31	27-May-98	27-May-30	627	126	126	-	-	-
3	7.52% \$300MM Note Payable to TransCanada	31-Jan-00	31-Jan-10	1,200	720	240	240	240	-
TOTAL					1,805	841	715	240	-

CAPP-NGTL-029(a)

Issue:

Prefunded/Unfunded Pension and Other Post Employment Benefits Liability

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 3.0, Schedules 3.11 and 3.11.1.

Preamble:

NGTL includes in rate base \$25,740 thousand of prefunded Pension and OPEB liabilities.

Request:

Please explain why NGTL did not fully expense the pension funding actually required during the years from 2000 to 2003.

Response:

NGTL did not expense the pension funding in the years 2000 through 2003 because NGTL accounts for pension expense on the accrual basis in accordance with the Canadian Institute of Chartered Accountants Handbook Section 3461 which requires the recognition of an expense in the reporting period in which an employee, through the provision of services to an enterprise, earns pension benefits under the enterprise's pension benefit plan. Under generally accepted accounting principles, pension funding contributions are recorded as a decrease to pension liability and are not recorded on the income statement.

Issue:

Prefunded/Unfunded Pension and Other Post Employment Benefits Liability

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1, Section 3.0, Schedules 3.11 and 3.11.1.

Preamble:

NGTL includes in rate base \$25,740 thousand of prefunded Pension and OPEB liabilities.

Request:

What portion of the liability is due to the switch from Defined Contribution to Defined Benefit plans?

Response:

[As per the February 2004 Update, NGTL includes in rate base \\$25.516 million of prefunded Pension and OPEB liabilities.](#) At January 1, 2004, ~~\$2.595~~ [\\$2.596](#) million of the Prefunded Pension and OPEB Liability is the result of the conversion from Defined Contribution to Defined Benefit.

CAPP-NGTL-030(a)

Issue:

Pension and Benefit Adjustment

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3.1 – 2002 to 2004 Operating Costs, Page 27 of 27.

Preamble:

NGTL indicates that part of the cost increase of \$7.5 million in Pension and Benefit Adjustment was due to consolidation of all employees into the defined benefit pension plan.

Request:

Please identify what the actual costs of this consolidation were and how much of those costs are included in the \$7.5 million Pension and Benefit Adjustment.

Response:

The cost associated with the consolidation of all employees into the defined benefit pension plan in 2003 was \$3.1 million. This amount is included in the \$7.5 million increase from 2002 to 2003 in the Pension and Benefit Adjustment.

CAPP-NGTL-030(b)

Issue:

Pension and Benefit Adjustment

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3.1 – 2002 to 2004 Operating Costs, Page 27 of 27.

Preamble:

NGTL indicates that part of the cost increase of \$7.5 million in Pension and Benefit Adjustment was due to consolidation of all employees into the defined benefit pension plan.

Request:

What would NGTL's Benefit costs and the Pension and Benefit Adjustment costs be if there had been no consolidation of employees into the defined benefit plan?

Response:

In 2003, NGTL's total Benefit costs and Pension and Benefit Adjustment would have been lower by \$3.1 million, assuming there was no increase in the contribution levels required under the defined contribution plan if it had remained in place.

CAPP-NGTL-031

Issue:

Pension and Benefit Adjustment

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
 Section 2.3.1 – 2002 to 2004 Operating Costs, Page 27 of 27.

Preamble:

Pension and Benefit Adjustment costs are expected to decrease by \$1.9 million between 2003 and 2004. NGTL specifies two changes that affect the decrease.

Request:

Please provide all details of and all the changes in this account between 2003 and 2004.

Response:

As per the February Update, the decrease in the costs between 2003 and 2004 is now \$0.5 million.

(\$000)	Forecast Year Actual 2003	Variance	Test Year 2004
Actuarial Loss Amortization	4,780,804	2,703,147	7,483,951
Benefit Adjustment	4,267,499	(4,267,173)	0,756
DB / DC Actuarial Adjustment	362,285	(362,285)	0
	<u>9,409,588</u>	<u>(1,926,554)</u>	<u>7,483,034</u>

The Actuarial Loss Amortization consists of Defined Benefit Pension Plan and Other Post Employment Benefits (OPEB) plan amortizations. The 2003 forecast-actual amount is based on a January, 2003 actuarial valuation. The 2004 amount is expected to

CAPP-NGTL-031

increase as a result of changes in actuarial assumptions, based on the January 2004 assessment.

The Benefit Adjustment line includes the effect of over or under-applied benefits based on the use of standard benefit rates as a percentage of salary. The 2003 ~~forecast-actual~~ in this account is primarily due to ~~due to~~ higher pension costs as a result of the January, 2003 actuarial assessment. This assessment was not completed in time to be included in the calculation of the 2003 budgeted benefit rate. In 2004, this amount ~~is reduced to zero since these costs are now included in the 2004 standard benefit rate.~~ again includes higher pension expense costs pursuant to the January 2004 actuarial assessment which could not be incorporated in the standard benefit rate during the budget process.

The DB / DC Actuarial Adjustment represents the cost of actuarial work performed in respect of the consolidation of the Defined Contribution Plan into the Defined Benefit Plan in 2003. This is a non-recurring cost and, therefore, the 2004 amount is zero.

CAPP-NGTL-032

Issue:

Simmons Pipeline purchase transitional costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 2,
Section 8.7 – Fort McMurray Area Delivery Service, Table 8.7-2 footnote, Page 7 of 9.

Preamble:

In the footnote to Table 8.7-2, NGTL identifies \$1.325 million in additional transition costs.

Request:

Please provide a detailed breakdown of the transition costs and explain why these are capital costs and not operating costs.

Response:

The \$1.325 million in transition costs referred to in the footnote to Table 8.7-2 will be capitalized because they are part of the incremental costs to integrate the Simmons pipeline into the Alberta System. Please refer to the response to BR-NGTL-029(d) for a detailed breakdown of these transition costs.

CAPP-NGTL-033

Issue:

Ventures TBO costs.

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 2, Sub-Section 8.8 – The TransCanada Pipelines Ventures Limited Partnership Arrangement, Page 1 of 4, Lines 18 to 20.

Preamble:

NGTL describes the initial Ventures bid in response to the RFP.

Request:

How much lower is the proposed new TBO arrangement than the initial offer by Ventures?

Response:

On a present value basis the proposed Ventures TBO arrangement is \$33 million lower than the initial Ventures TBO proposal.

CAPP-NGTL-034(a)

Issue:

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 2,
Section 5.0 – Contract Demand and Throughput, Tables 5.2-1 and 5.3-1.

Request:

Please provide a reconciliation of Tables 5.2-1 and 5.3-1 indicating NGTL's implied forecast of firm and interruptible delivery volumes at the Border Delivery Points.

Response:

Table 5.2-1 provides the aggregate Firm Transportation Receipt Contract Demand for the calendar years of 2002, 2003 and 2004. Table 5.3-1 provides the System Annual Throughput for the same period. These two tables do not reconcile, and are not expected to reconcile.

There are two tables that provide information about throughput by service type for both deliveries and receipts.

For a reconciliation of the receipt throughput by service type, please refer to the response to IGCAA-NGTL-008.1.

For a reconciliation of the delivery throughput by service type, please refer to the response to IGCAA-NGTL-008.1.

CAPP-NGTL-034(b)

REVISED February 2004**Issue:**

Supply and Throughput

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 2,
 Section 5.0 – Contract Demand and Throughput, Tables 5.2-1 and 5.3-1.

Request:

Please confirm the units used in Table 5.3-1 (e.g. is throughput at Empress really 1.75 Tcf/day?)

Response:

A corrected version of Table 5.3-1 with annual values is provided. The table, as originally filed, wrongly stated the throughput as daily volumes instead of annual. The units used in Table 5.3-1 have been corrected and are annual values. Table 5.3-1 has been revised in the February 2004 Update to show the correct units.

Table 5.3-1¹
NGTL Throughput Forecast

Delivery Point	2002 Actual		2003 Estimated²		2004 Forecast	
	Bcf	10⁹ m³	Bcf	10⁹ m³	Bcf	10⁹ m³
Empress	-2,093	-59.0	-1,941	-54.7	1,752	-49.4
McNeill	-779	-21.9	-772	-21.7	-732	-20.6
Alberta/B.C.	-773	-21.8	-686	-19.3	-787	-22.2
Other Borders	-27	-0.8	-5	-0.2	-14	-0.4
Sub-Total Borders	-3,672	-103.4	-3,404	-95.9	-3,285	-92.6
Intra-Alberta	-475	-13.4	-561	-15.8	-656	-18.5
Total System (excl. Fuel)	-4,146	-116.8	-3,965	-111.7	-3,940	-111.0
Fuel	-44	-1.2	-37	-1.0	-35	-1.0
Total System (incl. Fuel)	-4,190	-118.1	-4,001	-112.7	-3,976	-112.0

1. Numbers may not add due to rounding.

2. Includes actuals to August and estimates for the remainder of the year.

Issue:

Cost Allocation Process

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Volume 1,
Section 2.3.3 – Cost Allocation Process, Page 1 of 2.

Preamble:

Certain costs are allocated among TCPL's lines of business including NGTL.

Request:

For all Schedules in Section 2.3 please provide a breakdown by NGTL, Mainline, B.C. System, Foothills and Other.

Response:

Please refer to [revised](#) Attachment CAPP-NGTL-035 [as per the February 2004 Update](#), with the breakdown of Alberta System, Mainline, B.C. System and Other. There are no allocations to Foothills.

OPERATIONS, MAINTENANCE AND ADMINISTRATIVE COSTS

TOTAL COMPANY¹

FOR THE BASE YEAR ENDED DECEMBER 31, 2002,

THE ACTUAL YEAR ENDED DECEMBER 31, 2003,

AND THE TEST YEAR ENDING DECEMBER 31, 2004

(\$Thousands)

Line No.	Particulars	Base Year 2002				Total Company
		Alberta System	Mainline System	BC System	Other	
1	Field Operations	39,214	32,208	3,292	549	75,263
2	Engineering	12,214	9,746	4,610	134	26,704
3	Operations and Engineering Support Services	16,913	15,170	1,240	2,886	36,209
4	Operations and Engineering Programs	24,114	36,495	407	-	61,016
5	Commercial and Regulatory	16,410	13,822	1,678	320	32,230
6	Business Services	17,963	22,047	1,462	27,199	68,671
7	Information Systems	27,863	25,114	2,177	12,266	67,420
8	General Expenses	45,071	42,735	6,403	25,914	120,123
9	TOTAL OM&A COSTS	199,762	197,337	21,269	69,268	487,636
10	Percent of Total	41.0%	40.5%	4.3%	14.2%	

Line No.	Particulars	Actual Year 2003				Total Company
		Alberta System	Mainline System	BC System	Other	
11	Field Operations	38,545	27,003	2,624	612	68,784
12	Engineering	8,154	8,002	2,608	777	19,541
13	Operations and Engineering Support Services	15,905	14,916	851	2,332	34,004
14	Operations and Engineering Programs	24,511	40,883	341	-	65,735
15	Commercial and Regulatory	15,153	12,185	1,758	377	29,473
16	Business Services	16,872	19,731	1,364	27,224	65,191
17	Information Systems	25,053	23,840	1,650	10,217	60,760
18	General Expenses	53,703	66,951	8,563	41,359	170,576
19	TOTAL OM&A COSTS	197,896	213,511	19,759	82,898	514,064
20	Percent of Total	38.5%	41.5%	3.9%	16.1%	

Line No.	Particulars	Test Year 2004				Total Company
		Alberta System	Mainline System	BC System	Other	
21	Field Operations	38,631	29,447	2,880	598	71,556
22	Engineering	7,480	9,530	2,438	2,926	22,374
23	Operations and Engineering Support Services	17,512	15,929	861	2,745	37,047
24	Operations and Engineering Programs	22,743	29,887	349	-	52,979
25	Commercial and Regulatory	17,742	14,491	1,896	666	34,795
26	Business Services	18,053	21,992	1,304	31,943	73,292
27	Information Systems	22,699	21,275	1,488	12,170	57,632
28	General Expenses	63,467	69,796	8,640	51,190	193,093
29	TOTAL OM&A COSTS	208,327	212,347	19,856	102,238	542,768
30	Percent of Total	38.4%	39.1%	3.7%	18.8%	

¹ Total Company OM&A costs include the costs of the Mainline, the Alberta System, the BC System, together with TransCanada's Corporate costs.

OPERATIONS, MAINTENANCE AND ADMINISTRATIVE COSTS

FIELD OPERATIONS - TOTAL COMPANY

FOR THE BASE YEAR ENDED DECEMBER 31, 2002,

THE ACTUAL YEAR ENDED DECEMBER 31, 2003,

AND THE TEST YEAR ENDING DECEMBER 31, 2004

(\$Thousands)

Line No.	Particulars	Base Year 2002				Total Company
		Alberta System	Mainline System	BC System	Other	
1	Central Region	8,682	14,169	8	549	23,408
2	Northern Ontario	-	7,636	-	-	7,636
3	Eastern Region	-	10,403	-	-	10,403
4	Rocky Mountain Region	12,888	-	3,284	-	16,172
5	Wildrose Region	17,644	-	-	-	17,644
6	Total	39,214	32,208	3,292	549	75,263
7	Percent of Total	52.1%	42.8%	4.4%	0.7%	

Line No.	Particulars	Actual Year 2003				Total Company
		Alberta System	Mainline System	BC System	Other	
8	Central Region	6,309	9,793	34	612	16,748
9	Northern Ontario	-	7,751	-	-	7,751
10	Eastern Region	-	9,459	-	-	9,459
11	Rocky Mountain Region	13,266	-	2,590	-	15,856
12	Wildrose Region	18,970	-	-	-	18,970
13	Total	38,545	27,003	2,624	612	68,784
14	Percent of Total	56.0%	39.3%	3.8%	0.9%	

Line No.	Particulars	Test Year 2004				Total Company
		Alberta System	Mainline System	BC System	Other	
15	Central Region	3,328	11,220	247	598	15,393
16	Northern Ontario	-	8,721	-	-	8,721
17	Eastern Region	-	9,506	-	-	9,506
18	Rocky Mountain Region	13,847	-	2,633	-	16,480
19	Wildrose Region	21,456	-	-	-	21,456
20	Total	38,631	29,447	2,880	598	71,556
21	Percent of Total	54.0%	41.2%	4.0%	0.8%	

OPERATIONS, MAINTENANCE AND ADMINISTRATIVE COSTS
ENGINEERING - TOTAL COMPANY
 FOR THE BASE YEAR ENDED DECEMBER 31, 2002,
 THE ACTUAL YEAR ENDED DECEMBER 31, 2003,
 AND THE TEST YEAR ENDING DECEMBER 31, 2004
 (\$Thousands)

		Base Year 2002				
Line No.	Particulars	Alberta System	Mainline System	BC System	Other	Total Company
1	Pipe Engineering	2,464	2,583	82	5	5,134
2	Plant Engineering	7,630	5,906	4,058	8	17,602
3	Engineering Management and Project Controls	2,120	1,257	470	121	3,968
4	Total	<u>12,214</u>	<u>9,746</u>	<u>4,610</u>	<u>134</u>	<u>26,704</u>
5	Percent of Total	<u>45.7%</u>	<u>36.5%</u>	<u>17.3%</u>	<u>0.5%</u>	

		Actual Year 2003				
Line No.	Particulars	Alberta System	Mainline System	BC System	Other	Total Company
6	Pipe Engineering	1,741	2,004	57	-	3,802
7	Plant Engineering	5,536	5,031	2,479	5	13,051
8	Engineering Management and Project Controls	877	967	72	772	2,688
9	Total	<u>8,154</u>	<u>8,002</u>	<u>2,608</u>	<u>777</u>	<u>19,541</u>
10	Percent of Total	<u>41.7%</u>	<u>40.9%</u>	<u>13.3%</u>	<u>4.0%</u>	

		Test Year 2004				
Line No.	Particulars	Alberta System	Mainline System	BC System	Other	Total Company
11	Pipe Engineering	2,101	2,129	36	-	4,266
12	Plant Engineering	4,138	6,206	2,304	-	12,648
13	Engineering Management and Project Controls	1,241	1,195	98	2,926	5,460
14	Total	<u>7,480</u>	<u>9,530</u>	<u>2,438</u>	<u>2,926</u>	<u>22,374</u>
15	Percent of Total	<u>33.3%</u>	<u>42.6%</u>	<u>10.9%</u>	<u>13.1%</u>	

OPERATIONS, MAINTENANCE AND ADMINISTRATIVE COSTS
OPERATIONS AND ENGINEERING SUPPORT SERVICES - TOTAL COMPANY
 FOR THE BASE YEAR ENDED DECEMBER 31, 2002,
 THE ACTUAL YEAR ENDED DECEMBER 31, 2003,
 AND THE TEST YEAR ENDING DECEMBER 31, 2004
 (\$Thousands)

		Base Year 2002				
Line No.	Particulars	Alberta System	Mainline System	BC System	Other	Total Company
1	Business Management Services	5,324	5,322	171	1,384	12,201
2	Procurement Services	3,457	3,847	160	487	7,951
3	Field Services	3,794	3,002	646	(22)	7,420
4	Community, Safety and Environment	4,338	2,999	263	1,037	8,637
5	Total	<u>16,913</u>	<u>15,170</u>	<u>1,240</u>	<u>2,886</u>	<u>36,209</u>
6	Percent of Total	<u>46.7%</u>	<u>41.9%</u>	<u>3.4%</u>	<u>8.0%</u>	
		Actual Year 2003				
Line No.	Particulars	Alberta System	Mainline System	BC System	Other	Total Company
7	Business Management Services	5,563	5,453	303	964	12,283
8	Procurement Services	3,610	3,772	164	318	7,864
9	Field Services	3,129	2,832	103	197	6,261
10	Community, Safety and Environment	3,603	2,859	281	853	7,596
11	Total	<u>15,905</u>	<u>14,916</u>	<u>851</u>	<u>2,332</u>	<u>34,004</u>
12	Percent of Total	<u>46.8%</u>	<u>43.9%</u>	<u>2.5%</u>	<u>6.9%</u>	
		Test Year 2004				
Line No.	Particulars	Alberta System	Mainline System	BC System	Other	Total Company
13	Business Management Services	6,685	6,831	405	760	14,681
14	Procurement Services	2,658	2,763	165	535	6,121
15	Field Services	4,394	4,098	70	282	8,844
16	Community, Safety and Environment	3,775	2,237	221	1,168	7,401
17	Total	<u>17,512</u>	<u>15,929</u>	<u>861</u>	<u>2,745</u>	<u>37,047</u>
18	Percent of Total	<u>47.3%</u>	<u>43.0%</u>	<u>2.3%</u>	<u>7.4%</u>	

OPERATIONS, MAINTENANCE AND ADMINISTRATIVE COSTS
OPERATIONS AND ENGINEERING PROGRAMS - TOTAL COMPANY
 FOR THE BASE YEAR ENDED DECEMBER 31, 2002,
 THE ACTUAL YEAR ENDED DECEMBER 31, 2003,
 AND THE TEST YEAR ENDING DECEMBER 31, 2004
 (\$Thousands)

Line No.	Particulars	Base Year 2002				Total Company
		Alberta System	Mainline System	BC System	Other	
1	Compressor Fleet Repair and Overhaul	13,548	31,582	-	-	45,130
2	Electric Utilities	4,443	4,591	407	-	9,441
3	Land Payments	6,123	322	-	-	6,445
4	Total	24,114	36,495	407	-	61,016
5	Percent of Total	39.5%	59.8%	0.7%	0.0%	

Line No.	Particulars	Actual Year 2003				Total Company
		Alberta System	Mainline System	BC System	Other	
6	Compressor Fleet Repair and Overhaul	14,196	35,030	-	-	49,226
7	Electric Utilities	4,126	5,125	327	-	9,578
8	Land Payments	6,189	728	14	-	6,931
9	Total	24,511	40,883	341	-	65,735
10	Percent of Total	37.3%	62.2%	0.5%	0.0%	

Line No.	Particulars	Test Year 2004				Total Company
		Alberta System	Mainline System	BC System	Other	
11	Compressor Fleet Repair and Overhaul	10,359	23,931	-	-	34,290
12	Electric Utilities	3,766	5,406	349	-	9,521
13	Land Payments	8,618	550	-	-	9,168
14	Total	22,743	29,887	349	-	52,979
15	Percent of Total	42.9%	56.4%	0.7%	0.0%	

OPERATIONS, MAINTENANCE AND ADMINISTRATIVE COSTS
COMMERCIAL AND REGULATORY - TOTAL COMPANY
 FOR THE BASE YEAR ENDED DECEMBER 31, 2002,
 THE ACTUAL YEAR ENDED DECEMBER 31, 2003,
 AND THE TEST YEAR ENDING DECEMBER 31, 2004
 (\$Thousands)

Line No.	Particulars	Base Year 2002				Total Company
		Alberta System	Mainline System	BC System	Other	
1	Sales, Market Development and Rates	4,193	3,906	515	75	8,689
2	System Design and Operations	6,615	4,602	740	245	12,202
3	Customer Service	4,390	3,647	369	-	8,406
4	Regulatory Services	1,212	1,667	54	-	2,933
5	Total	16,410	13,822	1,678	320	32,230
6	Percent of Total	50.9%	42.9%	5.2%	1.0%	

Line No.	Particulars	Actual Year 2003				Total Company
		Alberta System	Mainline System	BC System	Other	
7	Sales, Market Development and Rates	4,507	4,160	614	227	9,508
8	System Design and Operations	6,298	4,459	641	141	11,539
9	Customer Service	2,946	2,265	432	-	5,643
10	Regulatory Services	1,402	1,301	71	9	2,783
11	Total	15,153	12,185	1,758	377	29,473
12	Percent of Total	51.4%	41.3%	5.9%	1.3%	

Line No.	Particulars	Test Year 2004				Total Company
		Alberta System	Mainline System	BC System	Other	
13	Sales, Market Development and Rates	5,467	5,297	723	589	12,076
14	System Design and Operations	7,124	5,057	599	77	12,857
15	Customer Service	3,596	2,434	399	-	6,429
16	Regulatory Services	1,555	1,703	175	-	3,433
17	Total	17,742	14,491	1,896	666	34,795
18	Percent of Total	51.0%	41.6%	5.4%	1.9%	

OPERATIONS, MAINTENANCE AND ADMINISTRATIVE COSTS

BUSINESS SERVICES - TOTAL COMPANY

FOR THE BASE YEAR ENDED DECEMBER 31, 2002,

THE ACTUAL YEAR ENDED DECEMBER 31, 2003,

AND THE TEST YEAR ENDING DECEMBER 31, 2004

(\$Thousands)

Line No.	Particulars	Base Year 2002				Total Company
		Alberta System	Mainline System	BC System	Other	
1	Human Resources	3,447	3,188	268	2,126	9,029
2	Public Sector Relations	1,191	2,068	42	674	3,975
3	Building Services	4,006	3,702	313	2,398	10,419
4	Finance	5,474	7,027	565	13,737	26,803
5	Law and General Counsel	1,977	2,892	117	3,604	8,590
6	Other	1,868	3,170	157	4,660	9,855
7	Total	17,963	22,047	1,462	27,199	68,671
8	Percent of Total	26.2%	32.1%	2.1%	39.6%	

Line No.	Particulars	Actual Year 2003				Total Company
		Alberta System	Mainline System	BC System	Other	
9	Human Resources	3,307	3,339	243	2,201	9,090
10	Public Sector Relations	1,140	1,876	53	800	3,869
11	Building Services	3,987	2,480	178	1,584	8,229
12	Finance	5,079	6,547	594	13,387	25,607
13	Law and General Counsel	1,890	2,703	142	3,821	8,556
14	Other	1,469	2,786	154	5,431	9,840
15	Total	16,872	19,731	1,364	27,224	65,191
16	Percent of Total	25.9%	30.3%	2.1%	41.8%	

Line No.	Particulars	Test Year 2004				Total Company
		Alberta System	Mainline System	BC System	Other	
17	Human Resources	3,520	3,579	246	2,805	10,150
18	Public Sector Relations	1,445	2,440	66	1,057	5,008
19	Building Services	3,623	2,164	144	1,675	7,606
20	Finance	5,336	7,193	513	16,328	29,370
21	Law and General Counsel	2,088	3,153	150	4,602	9,993
22	Other	2,041	3,463	185	5,476	11,165
23	Total	18,053	21,992	1,304	31,943	73,292
24	Percent of Total	24.6%	30.0%	1.8%	43.6%	

OPERATIONS, MAINTENANCE AND ADMINISTRATIVE COSTS
INFORMATION SYSTEMS - TOTAL COMPANY
 FOR THE BASE YEAR ENDED DECEMBER 31, 2002,
 THE ACTUAL YEAR ENDED DECEMBER 31, 2003,
 AND THE TEST YEAR ENDING DECEMBER 31, 2004
 (\$Thousands)

Line No.	Particulars	Base Year 2002				Total Company
		Alberta System	Mainline System	BC System	Other	
1	Shared Services	12,660	11,815	1,011	8,664	34,150
2	Customer and Pipeline Systems Support	6,352	4,971	722	203	12,248
3	Commercial Systems Support	2,951	3,180	243	2,829	9,203
4	Telecommunications	5,900	5,148	201	570	11,819
5	Systems Development	-	-	-	-	-
6	Total	27,863	25,114	2,177	12,266	67,420
7	Percent of Total	41.3%	37.3%	3.2%	18.2%	

Line No.	Particulars	Actual Year 2003				Total Company
		Alberta System	Mainline System	BC System	Other	
8	Shared Services	8,835	8,961	593	5,680	24,069
9	Customer and Pipeline Systems Support	5,131	4,264	441	175	10,011
10	Commercial Systems Support	2,485	2,871	245	2,726	8,327
11	Telecommunications	5,328	4,326	201	628	10,483
12	Systems Development	3,274	3,418	170	1,008	7,870
13	Total	25,053	23,840	1,650	10,217	60,760
14	Percent of Total	41.2%	39.2%	2.7%	16.8%	

Line No.	Particulars	Test Year 2004				Total Company
		Alberta System	Mainline System	BC System	Other	
15	Shared Services	8,868	8,864	546	6,126	24,404
16	Customer and Pipeline Systems Support	4,820	4,225	384	184	9,613
17	Commercial Systems Support	2,770	3,093	263	3,328	9,454
18	Telecommunications	3,956	2,747	136	722	7,561
19	Systems Development	2,285	2,346	159	1,810	6,600
20	Total	22,699	21,275	1,488	12,170	57,632
21	Percent of Total	39.4%	36.9%	2.6%	21.1%	

OPERATIONS, MAINTENANCE AND ADMINISTRATIVE COSTS

TOTAL COMPANY GENERAL EXPENSES

FOR THE BASE YEAR ENDED DECEMBER 31, 2002,

THE ACTUAL YEAR ENDED DECEMBER 31, 2003,

AND THE TEST YEAR ENDING DECEMBER 31, 2004

(\$Thousands)

		Base Year 2002				
Line No.	Particulars	Alberta System	Mainline System	BC System	Other	Total Company
1	Auditing	465	807	16	262	1,550
2	Legal	947	1,584	20	548	3,099
3	Insurance	3,131	4,504	439	366	8,440
4	Stock and Debt Administration	1,660	2,513	47	767	4,987
5	Incentive Compensation (IC)	9,755	9,060	743	7,068	26,626
6	Long Term Incentive Compensation	8,888	8,247	689	5,900	23,724
7	Dues and Subscriptions	458	816	19	295	1,588
8	Director's Fees and Expenses	505	610	44	1,393	2,552
9	Donations	1,222	1,770	36	1,487	4,515
10	Other Regulatory	-	863	3,228	-	4,091
11	Relocation Expense	1,170	1,043	110	345	2,668
12	Rent	11,168	10,317	884	6,155	28,524
13	Other Post Employment Benefits (OPEBS)	887	933	72	-	1,892
14	Pension and Benefit Adjustment	1,130	1,003	166	657	2,956
15	Actuarial Gain / Loss Amortization	771	718	-	573	2,062
16	Miscellaneous	2,914	(2,053)	(110)	98	849
17	Total General Expenses	45,071	42,735	6,403	25,914	120,123
18	Percent of Total	37.5%	35.6%	5.3%	21.6%	

		Actual Year 2003				
Line No.	Particulars	Alberta System	Mainline System	BC System	Other	Total Company
19	Auditing	579	845	21	345	1,790
20	Legal	402	1,678	16	404	2,500
21	Insurance	3,258	5,115	592	1,148	10,113
22	Stock and Debt Administration	2,055	3,285	79	1,320	6,739
23	Incentive Compensation (IC)	13,201	13,007	993	9,215	36,416
24	Long Term Incentive Compensation	13,203	13,119	992	9,236	36,550
25	Dues and Subscriptions	526	918	18	285	1,747
26	Director's Fees and Expenses	561	659	57	1,745	3,022
27	Donations	1,017	1,560	33	1,935	4,545
28	Other Regulatory	268	283	3,646	-	4,197
29	Relocation Expense	930	1,067	46	512	2,555
30	Severance	-	8,894	662	2,711	12,267
31	Rent	9,312	8,866	743	5,445	24,366
32	Other Post Employment Benefits (OPEBS)	886	933	72	-	1,891
33	Pension and Benefit Adjustment	4,784	4,760	365	3,358	13,267
34	Actuarial Gain / Loss Amortization	4,804	4,712	351	3,331	13,198
35	Miscellaneous	(2,083)	(2,750)	(123)	369	(4,587)
36	Total General Expenses	53,703	66,951	8,563	41,359	170,576
37	Percent of Total	31.5%	39.2%	5.0%	24.3%	

		Test Year 2004				
Line No.	Particulars	Alberta System	Mainline System	BC System	Other	Total Company
38	Auditing	565	1,003	24	408	2,000
39	Legal	793	2,072	27	1,478	4,370
40	Insurance	3,987	5,869	655	2,371	12,882
41	Stock and Debt Administration	2,038	3,617	87	1,471	7,213
42	Incentive Compensation (IC)	12,267	12,154	872	9,913	35,206
43	Long Term Incentive Compensation	15,283	15,143	1,087	12,351	43,864
44	Dues and Subscriptions	609	1,083	25	393	2,110
45	Director's Fees and Expenses	593	683	54	1,542	2,872
46	Donations	1,027	1,679	40	1,904	4,650
47	Other Regulatory	47	542	3,852	-	4,441
48	Relocation Expense	871	863	62	704	2,500
49	Severance	5,886	6,042	409	4,663	17,000
50	Rent	9,782	9,337	747	6,862	26,728
51	Other Post Employment Benefits (OPEBS)	886	933	72	-	1,891
52	Pension and Benefit Adjustment	2,756	2,730	196	2,227	7,909
53	Actuarial Gain / Loss Amortization	6,278	6,221	446	5,074	18,019
54	Miscellaneous	(201)	(175)	(15)	(171)	(562)
55	Total General Expenses	63,467	69,796	8,640	51,190	193,093
56	Percent of Total	32.9%	36.1%	4.5%	26.5%	

OPERATING COSTS - TOTAL COMPANY
FOR THE BASE YEAR ENDED DECEMBER 31, 2002,
THE ACTUAL YEAR ENDED DECEMBER 31, 2003,
AND THE TEST YEAR ENDING DECEMBER 31, 2004
(\$ Millions)

Line No.	Particulars	Base Year 2002			Actual Year 2003			Test Year 2004			Total Company ⁽¹⁾
		Alberta System	Mainline System	Other	Alberta System	Mainline System	Other	Alberta System	Mainline System	Other	
1	FIELD OPERATIONS										
2	Salaries ⁽²⁾	19.7	16.3	0.3	18.2	14.0	0.5	18.6	14.4	1.5	33.7
3	Benefits	6.2	5.3	0.1	6.0	5.2	0.1	6.8	6.2	0.5	11.7
4	Employee Expenses	1.5	1.6	0.1	1.4	1.4	0.1	1.5	1.5	0.1	3.0
5	Contracted Services / Consultant Fees	5.6	4.9	0.5	5.6	4.6	0.5	4.4	3.7	0.2	10.6
6	Maintenance Parts / Freight / Courier	4.4	3.0	0.7	4.6	3.0	0.4	4.7	3.7	0.4	8.1
7	Other Expenses	2.1	1.9	0.4	3.8	1.6	0.2	3.1	1.4	0.2	5.7
8	Amounts Charged to Other Accounts	(0.3)	(0.7)	(0.2)	(1.1)	(2.8)	-	(0.5)	(1.4)	-	(4.0)
		39.2	32.3	3.3	38.5	27.0	2.6	38.6	29.5	2.9	68.8
9	ENGINEERING										
10	Salaries ⁽²⁾	4.6	3.9	0.3	3.5	3.3	0.2	3.6	4.9	0.3	7.2
11	Benefits	2.8	1.8	0.4	2.1	2.3	0.2	2.1	2.4	0.2	5.1
12	Employee Expenses	0.7	0.6	0.1	0.5	0.4	-	0.6	0.7	-	0.9
13	Contracted Services / Consultant Fees	3.5	3.1	3.7	1.7	1.6	0.7	0.8	1.0	0.6	4.1
14	Maintenance Parts / Freight / Courier	0.5	0.3	0.2	0.1	0.1	1.5	0.1	0.1	1.3	1.8
15	Other Expenses	0.1	-	0.1	0.3	0.3	-	0.3	0.4	-	0.5
16	Amounts Charged to Other Accounts	-	(0.1)	-	-	-	(0.1)	-	-	-	(0.1)
		12.2	9.7	4.7	8.2	8.0	2.6	7.5	9.5	2.4	19.6
17	OPERATIONS & ENGINEERING SUPPORT SERVICES										
18	Salaries ⁽²⁾	5.1	5.1	1.2	5.5	5.4	0.4	6.1	5.1	0.4	12.4
19	Benefits	2.2	2.2	0.3	2.3	2.7	0.1	2.9	3.3	0.2	5.5
20	Employee Expenses	0.8	0.8	0.1	0.7	0.7	0.1	1.0	0.9	-	1.6
21	Contracted Services / Consultant Fees	4.7	4.5	0.2	4.0	3.7	0.2	2.8	2.7	0.1	8.3
22	Maintenance Parts / Freight / Courier	2.5	1.4	0.3	2.5	1.2	-	3.0	2.1	0.1	3.8
23	Other Expenses	1.6	1.3	0.2	1.0	1.2	0.1	1.7	1.8	0.1	2.5
24	Amounts Charged to Other Accounts	-	(0.1)	-	(0.1)	-	-	-	-	-	(0.1)
		16.9	15.2	1.3	15.9	14.9	0.9	17.5	15.9	0.9	34.0
25	OPERATIONS & ENGINEERING PROGRAMS										
26	Salaries ⁽²⁾	0.1	-	-	-	-	-	-	-	-	-
27	Benefits	-	-	-	-	-	-	-	-	-	-
28	Employee Expenses	-	-	-	-	-	-	-	-	-	-
29	Contracted Services / Consultant Fees	10.9	25.2	-	6.3	15.9	-	3.5	7.4	-	22.2
30	Maintenance Parts / Freight / Courier	2.9	6.7	(0.1)	8.1	19.4	-	7.1	16.5	-	27.5
31	Other Expenses	10.4	5.1	0.4	10.3	6.0	0.3	12.1	6.0	0.4	16.6
32	Amounts Charged to Other Accounts	(0.2)	(0.5)	0.1	(0.2)	(0.4)	-	-	-	-	(0.6)
		24.1	36.5	0.4	24.5	40.9	0.3	22.7	29.9	0.4	65.7
											53.0

⁽¹⁾ Total Company operating costs include the costs of the Mainline, the Alberta System, the BC System, and operating costs allocated to TCPL's other lines of business. It does not include the operation costs directly incurred by other lines of business.

⁽²⁾ Salaries includes overtime and ancillary, net of amounts charged to construction and other projects.

NOVA GAS TRANSMISSION LTD.

OPERATING COSTS
 FOR THE BASE YEAR ENDED DECEMBER 31, 2002,
 THE ACTUAL YEAR ENDED DECEMBER 31, 2003,
 AND THE TEST YEAR ENDING DECEMBER 31, 2004
 (\$ Millions)

Line No.	Particulars	Base Year 2002				Actual Year 2003				Test Year 2004						
		Alberta System	Mainline System	BC System	Other	Alberta System	Mainline System	BC System	Other	Alberta System	Mainline System	BC System	Other			
		Total Company ⁽¹⁾				Total Company ⁽¹⁾				Total Company ⁽¹⁾						
33	COMMERCIAL AND REGULATORY															
34	Salaries ⁽²⁾	10.4	8.8	1.1	0.2	20.5	10.8	8.8	0.9	0.3	20.8	12.0	9.3	1.0	0.4	22.7
35	Benefits	3.0	2.5	0.3	0.1	5.9	3.3	2.7	0.3	-	6.3	4.3	3.2	0.4	0.1	8.0
36	Employee Expenses	0.8	0.7	0.1	-	1.6	0.7	0.8	0.2	(0.1)	1.6	1.1	1.7	0.1	0.2	3.1
37	Contracted Services / Consultant Fees	0.8	0.6	0.2	-	1.6	0.7	0.4	0.3	0.1	1.5	0.7	0.6	0.4	(0.1)	1.6
38	Maintenance Parts / Freight / Courier	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	Other Expenses	1.6	1.5	-	-	3.1	0.2	0.2	-	-	0.4	0.3	0.5	-	-	0.8
40	Amounts Charged to Other Accounts	(0.2)	(0.3)	-	-	(0.5)	(0.5)	(0.7)	0.1	-	(1.1)	(0.6)	(0.8)	-	-	(1.4)
		16.4	13.8	1.7	0.3	32.2	15.2	12.2	1.8	0.3	29.5	17.8	14.5	1.9	0.6	34.8
41	BUSINESS SERVICES															
42	Salaries ⁽²⁾	8.1	10.5	0.7	15.3	34.6	7.7	10.1	0.8	15.1	33.7	8.0	10.9	0.7	17.5	37.1
43	Benefits	2.2	2.9	0.2	4.2	9.5	2.2	2.8	0.2	4.5	9.7	2.7	3.6	0.2	6.1	12.6
44	Employee Expenses	1.1	1.3	0.1	1.6	4.1	1.2	1.5	0.1	1.7	4.5	1.6	2.0	0.1	2.8	6.5
45	Contracted Services / Consultant Fees	3.3	3.7	0.3	3.2	10.5	3.2	2.7	0.1	2.8	8.8	3.0	2.9	0.2	2.7	8.8
46	Maintenance Parts / Freight / Courier	0.5	0.5	-	0.3	1.3	0.2	0.2	-	0.1	0.5	0.1	-	-	-	0.1
47	Other Expenses	2.8	3.5	0.2	2.7	9.2	2.5	2.8	0.2	3.0	8.5	2.7	2.9	0.1	3.2	8.9
48	Amounts Charged to Other Accounts	(0.4)	(0.4)	-	(0.1)	(0.5)	(0.1)	(0.4)	-	(0.1)	(0.6)	(0.1)	(0.3)	-	(0.3)	(0.7)
		18.0	22.0	1.5	27.2	68.7	16.9	19.7	1.4	27.1	65.1	18.0	22.0	1.3	32.0	73.3
49	INFORMATION SYSTEMS															
50	Salaries ⁽²⁾	5.9	5.4	0.5	3.0	14.8	7.6	7.7	0.6	4.1	20.0	6.4	6.4	0.5	4.5	17.8
51	Benefits	2.5	2.2	0.2	1.4	6.3	2.6	2.4	0.2	1.2	6.4	2.8	2.7	0.2	1.5	7.2
52	Employee Expenses	0.5	0.5	-	0.4	1.4	0.7	0.7	-	0.5	1.9	0.6	0.6	-	0.3	1.5
53	Contracted Services / Consultant Fees	9.4	8.3	0.8	4.9	23.4	5.9	5.7	0.4	1.9	13.9	5.2	4.9	0.4	2.2	12.7
54	Maintenance Parts / Freight / Courier	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-
55	Other Expenses	9.6	8.7	0.5	2.8	21.6	8.2	7.3	0.4	2.6	18.5	7.7	6.6	0.4	3.7	18.4
56	Amounts Charged to Other Accounts	-	-	-	(0.1)	(0.1)	-	-	-	-	-	-	-	-	-	-
		27.9	25.1	2.0	12.4	67.4	25.0	23.8	1.6	10.4	60.8	22.7	21.2	1.5	12.2	57.6
57	TOTAL FUNCTIONAL AREAS															
58	Salaries ⁽²⁾	53.9	50.0	4.1	20.0	128.0	53.3	49.3	3.9	21.3	127.8	54.7	51.0	4.4	25.3	135.4
59	Benefits	18.9	16.9	1.8	6.3	43.9	18.5	18.1	1.4	6.7	44.7	21.6	21.4	1.7	9.3	54.0
60	Employee Expenses	5.4	5.5	0.4	2.2	13.5	5.2	5.5	0.5	2.3	13.5	6.4	7.4	0.3	3.8	17.9
61	Contracted Services / Consultant Fees	38.2	50.3	5.7	9.0	103.2	27.4	34.6	2.2	5.3	69.4	20.4	23.2	1.9	5.8	51.3
62	Maintenance Parts / Freight / Courier	10.8	11.9	1.2	0.2	24.1	15.5	23.9	1.9	0.4	41.8	15.0	22.4	1.8	0.1	39.3
63	Other Expenses	28.2	22.0	1.8	5.9	57.9	26.3	19.4	1.2	5.7	52.7	27.9	19.6	1.2	7.1	55.8
64	Amounts Charged to Other Accounts	(0.7)	(2.0)	(0.1)	(0.3)	(3.1)	(2.0)	(4.3)	0.1	(0.1)	(6.4)	(1.2)	(2.5)	-	(0.3)	(4.0)
		154.7	154.6	14.9	43.3	367.5	144.2	146.5	11.2	41.6	343.5	144.8	142.5	11.3	51.1	349.7
65	GENERAL EXPENSES	45.1	42.7	6.4	25.9	120.1	53.7	67.0	8.6	41.3	170.6	63.5	69.8	8.6	51.2	193.1
66	NET OPERATING EXPENSES	199.8	197.3	21.3	69.2	487.6	197.9	213.5	19.8	82.9	514.1	208.3	212.3	19.9	102.3	542.8

⁽¹⁾ Total Company operating costs include the costs of the Mainline, the Alberta System, the BC System, and operating costs allocated to TCPL's other lines of business. It does not include the operation costs directly incurred by other lines of business.

⁽²⁾ Salaries includes overtime and ancillary, net of amounts charged to construction and other projects.

CAPP-NGTL-036

Issue:

Mainline and Lateral Facilities

Reference:

2004 General Rate Application Phase 1, Appendix 4 & 5 Requirements from Decision 2003-051, Sub-Section 10.6 – Definition of Mainline and Lateral Facilities

Request:

- (a) Does NGTL intend to re-enter the lateral business?
- (b) If so, please describe how and under what circumstances NGTL would do so.

Response:

- (a) Not at this time.
- (b) Not applicable.

Issue:

Income Taxes

Reference:

2004 General Rate Application Phase 1, Revenue Requirement, Sub-Section 2.5 –
Income and Large Corporation Taxes

Preamble:

NGTL describes the causes for the increase in income taxes in 2004 including an increase resulting from an increase in the return related to equity.

Request:

Please provide a calculation of the income tax requirement on the assumption of a rate of return of 8.12% on a deemed common equity of 33%.

Response:

For the purposes of this calculation all income tax variables, with the exception of Return Related to Equity and Federal Surtax Deduction, are consistent with the amounts reported on Schedules 2.5.1 and 2.5.2 of the GRA. Please see Attachment CAPP-NGTL-037 [which has been revised as per the February 2004 Update.](#)

INCOME AND LARGE CORPORATION TAXES

FOR THE TEST YEAR ENDING DECEMBER 31, 2004

(Illustrative example assuming 8.12% return on 33% deemed common equity)

(\$Thousands)

LINE NO.	DESCRIPTION (a)	TEST YEAR 2004 (b)
1	Return Related to Equity (8.12% ROE, 33% Equity Thickness on Weighted Average Rate Base of 4,661,460)	124,908
	Add :	
2	Large Corporation Taxes	5,047
3	Depreciation and Amortization	302,203
4	Amortization of Issue Costs	1,688
5	Non Allowable Expenses	215
	(Deduct):	
6	Capital Cost Allowance	(199,682)
7	Cumulative Eligible Capital	(1,030)
8	AFUDC Interest Component	(335)
9	Debt Issue Costs	(240)
10	Other	(400)
11		<u>232,375</u>
12	Taxes thereon (Tax Rate/(1-Tax Rate)) ⁽¹⁾	52.95%
13	Income Taxes	123,047
14	Large Corporation Taxes	<u>5,047</u>
15	Total Income and Large Corporation Taxes	<u><u>128,094</u></u>

⁽¹⁾ Income Taxes are calculated using the following rates:

Federal	21.000%
Federal Surcharge	1.120%
Provincial	<u>12.500%</u>
Total	<u><u>34.620%</u></u>

LARGE CORPORATION TAXES

FOR THE TEST YEAR ENDING DECEMBER 31, 2004

(Illustrative example assuming 8.12% return on 33% deemed common equity)

(\$Thousands)

LINE NO.	DESCRIPTION	TEST YEAR 2004
	(a)	(b)
	Year End Capital:	
1	Rate Base (8.12% ROE, 33% Equity Thickness)	4,562,017
2	Gas Plant Under Construction (8.12% ROE, 33% Equity Thickness)	1,952
3		<u>4,563,969</u>
4	Base Deduction	(50,000)
5	Taxable Capital	<u>4,513,969</u>
6	Large Corporation Tax Rate	0.200%
7	Gross Large Corporation Tax	9,028
8	Federal Surtax Deduction	(3,981)
9	Large Corporation Taxes	<u>5,047</u>

CAPP-NGTL-038(a)

Issue:

Pipeline Integrity Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement,
Sub-Section 2.11 – Pipeline Integrity Costs

Request:

Please provide Schedules 2.11 to 2.11.3 for the period 1995 to 2001.

Response:

Please refer to Attachment CAPP-NGTL-038(a).

PIPELINE INTEGRITY COSTS

FOR THE YEARS ENDED DECEMBER 31, 1995 THROUGH 2001
(\$Thousands)

LINE NO.	DESCRIPTION (a)	REF. SCHEDULE (b)	1995 (c)	1996 (d)	1997 (e)	1998 (f)	1999 (g)	2000 (h)	2001 (i)
1	Pipeline Integrity Expense ⁽¹⁾		N/A	N/A	N/A	6,444	18,100	24,165	18,048
2	Pipeline Integrity Capital Cost Recovery ⁽²⁾	CAPP-NGTL-038(a) page 2 of 4	N/A	N/A	N/A	N/A	N/A	N/A	3,681
3	Total Pipeline Integrity Costs		N/A	N/A	N/A	6,444	18,100	24,165	21,729

NOTES:⁽¹⁾ Pipeline integrity expense was not separately identified prior to 1998.⁽²⁾ The capital portion of pipeline integrity and the associated capital cost recovery were not separately identified prior to 2001.

PIPELINE INTEGRITY CAPITAL COST RECOVERY

FOR THE YEAR ENDED DECEMBER 31, 2001

(\$Thousands)

LINE NO.	DESCRIPTION (a)	REF. SCHEDULE (b)	2001 (c)
Pipeline Integrity Capital GPIS			
1	Pipeline Integrity Capital GPIS additions in year		<u>47,924</u>
2	Weighted Average Pipeline Integrity Capital GPIS		<u>24,683</u>
3	Weighted Average Pipeline Integrity Capital Net GPIS		<u>24,341</u>
Pipeline Integrity Capital Cost Recovery			
4	Operating Return (8.75% x Line 3)		2,131
5	Depreciation (4.0% x Line 2)		987
6	Income and Large Corporation Taxes (Line 15)		<u>563</u>
7	Pipeline Integrity Capital Cost Recovery		<u>3,681</u>
Income and Large Corporation Taxes - Pipeline Integrity Capital			
8	Pipeline Integrity Capital Earnings		749
9	Depreciation (Line 5)		987
10	Capital cost allowance		(1,183)
11	Large corporation tax		<u>93</u>
12	Taxable income		<u>646</u>
13	Income taxes (Line 12 x 42.119%/(1-42.119%))		470
14	Large corporation tax		<u>93</u>
15	Income and Large Corporation Taxes		<u>563</u>

CAPITAL PIPELINE INTEGRITY RATE BASE SUMMARY

FOR THE YEAR ENDED DECEMBER 31, 2001
(\$Thousands)

LINE NO.	DESCRIPTION (a)	Jan 1	Jan 31	Feb 28	Mar 31	Apr 30	May 31	June 30	July 31	Aug 31	Sep 30	Oct 31	Nov 30	Dec 31	13 MONTH AVERAGE	TOTAL
		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
1	Opening Gas Plant In Service	-	-	7,430	7,682	15,462	16,243	22,908	23,747	28,944	29,934	34,988	41,763	43,852		
2	Additions	7,430	7,430	253	7,780	780	6,665	839	5,197	990	5,054	6,775	2,089	4,072		47,924
3	Gas Plant In Service	-	7,430	7,682	15,462	16,243	22,908	23,747	28,944	29,934	34,988	41,763	43,852	47,924	24,683	
4	Opening Accumulated Depreciation	-	-	-	27	55	111	169	252	338	443	551	678	829		
5	Depreciation Expense	-	-	27	28	56	59	83	86	105	108	127	151	159		987
6	Accumulated Depreciation	-	-	27	55	111	169	252	338	443	551	678	829	987	341	
7	Net Gas Plant In Service	-	7,430	7,655	15,408	16,132	22,739	23,495	28,606	29,491	34,437	41,085	43,023	46,936	24,341	

CAPITAL PIPELINE INTEGRITY CAPITAL COST ALLOWANCE AND CUMULATIVE ELIGIBLE CAPITAL

FOR THE YEAR ENDED DECEMBER 31, 2001
(\$Thousands)

LINE NO.	CCA CLASS	UCC BALANCE JAN. 1, 2002	ADJUSTMENTS TO OPENING BALANCE	COST OF ADDITIONS	NET SALVAGE	UCC BEFORE DEFERRED CAPITAL COST	EXCESS	CAPITAL COST DEFERRED	UCC BEFORE CCA	MAX RATE ALLOWANCE	CAPITAL COST	UCC BALANCE DEC. 31, 2002
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	
1	01	-	-	43,685	-	43,685	43,685	21,842	21,842	4%	874	42,811
2	02	-	-	-	-	-	-	-	-	6%	-	-
3	03	-	-	-	-	-	-	-	-	5%	-	-
4	06	-	-	-	-	-	-	-	-	10%	-	-
5	08	-	-	3,079	-	3,079	3,079	1,539	1,539	20%	308	2,771
6	09	-	-	-	-	-	-	-	-	25%	-	-
7	10	-	-	-	-	-	-	-	-	30%	-	-
8	12	-	-	-	-	-	-	-	-	100%	-	-
9	13	-	-	-	-	-	-	-	-	S/L	-	-
10	17	-	-	40	-	40	40	20	20	8%	2	39
11		-	-	46,804	-	46,804	46,804	23,400	23,400		1,183	45,621

12	In-Service Additions	Total	47,924
13	AFUDC	(1,126)	
14	CEC	6	
15		<u>46,804</u>	

Cumulative Eligible Capital

LINE NO.	OPENING BALANCE	COST OF ADDITIONS	EXCLUDE 25% OF ADDITIONS	ELIGIBLE BALANCE	RATE	CEC DEDUCTION	CLOSING BALANCE
16	-	6	2	4	7%	-	4

CAPP-NGTL-038(b)

Issue:

Pipeline Integrity Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement,
Sub-Section 2.11 – Pipeline Integrity Costs

Request:

Please provide a description of any multi-year pipeline integrity programs that NGTL has initiated in the past including their current status.

Response:

Pipeline integrity plans are a series of annual programs grouped under a number of specific categories. Pipeline integrity programs within NGTL are developed on an annual basis based on a rigorous risk assessment process. In this manner, NGTL is able to prioritize pipeline integrity activities to address areas of unacceptable risk thereby optimizing pipeline integrity spending.

CAPP-NGTL-038(c)

Issue:

Pipeline Integrity Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement,
Sub-Section 2.11 – Pipeline Integrity Costs

Request:

Please provide a forecast to 2007 of future spending on pipeline integrity.

Response:

The following table summarizes forecasted pipeline integrity costs to 2007 for the Alberta System. These costs reflect current pipeline integrity spending estimates assuming no incidents, changes in code or regulations or new information on pipeline conditions that would impact NGTL's risk assessments.

**NGTL Pipeline Integrity 2005-2007 Expense and Capital Expenditure Forecast
(\$millions)**

	2005	2006	2007
Expense	11	12	10
Capital Expenditures	5	3	4

CAPP-NGTL-038(d)

Issue:

Pipeline Integrity Costs

Reference:

2004 General Rate Application Phase 1, Revenue Requirement,
Sub-Section 2.11 – Pipeline Integrity Costs

Request:

Please explain why pipeline integrity costs are not part of O&M costs.

Response:

NGTL separates pipeline integrity costs from O&M costs to enable flow-through treatment of these costs. Historically, shippers have agreed with this treatment. NGTL has applied for continuation of the Pipeline Integrity deferral account in Section 7.4.3 of the Application.

CAPP-NGTL-039

Issue:

Foothills Pipe Lines Ltd. forecast costs.

Reference:

2004 General Rate Application Phase 1, Revenue Requirement,
Sub-Section 2.7 – Transportation by Others, Page 9 of 13

Preamble:

Foothills forecasts its cost of service six months in advance. Foothills TBO costs are forecast to increase in 2004.

Request:

Please provide Foothills' forecast of its cost of service for January to June 2004 as filed with the National Energy Board and the forecast for the 2004 year as provided to NGTL by Foothills.

Response:

NGTL incorrectly indicated in Sub-Section 2.7 of the Application that Foothills files six month cost of service forecasts with the National Energy Board (NEB) on or before October 31 and April 30 each year. These six month forecasts are provided to shippers but are not filed with the NEB. Foothills does file with the NEB its Operating and Maintenance Expense budget for the upcoming test year on or before the first day of December each year.

The requested information is provided in Attachment 1, CAPP-NGTL-039 (January to June 2004 Billing Estimate, October 31, 2003) and Attachment 2, CAPP-NGTL-039 (2004 Forecast, as provided by Foothills to NGTL on September 3, 2003).



MONTHLY CHARGE - NOVA GAS TRANSMISSION LTD.

Billing Period - January through June 2004

	Zone 6	Zone 7	TOTAL
Estimated Zone Cost of Service	\$ 33,361,940	\$ 4,144,954	\$ 37,506,894
NOVA's Allocation	x 100.0000%	100.0000%	
NOVA's Base Billing Amount	33,361,940	4,144,954	37,506,894
Months in Billing Period	÷ 6	6	6
Zone Base Billing Amount	\$ 5,560,323	\$ 690,826	\$ 6,251,149
Deficiency/(Overpayment) Adjustments: Billing Collection/(Refund)	+ (566,628)	42,608	(524,020)
NOVA's Monthly Charge	\$ 4,993,695	\$ 733,434	\$ 5,727,129
Monthly charge per MCF	\$ 0.079	\$ 0.034	

** The above monthly charge per MCF is based on volumes at the Maximum Daily Receipt Quantity for the six month Billing Period. This amount is for information purposes only and may not be used as a basis for calculating transportation charges due to Foothills.

Contact - Karen Khan (403) 294-4127 or Paula Kelly (403) 294-4118



FOOTHILLS PIPE LINES (ALTA.) LTD. - ZONE 6 COST OF SERVICE (\$000's)

	2004	2003	
	Forecast	Forecast	Increase
	Jan - Jun	Jul - Dec	(Decrease)
Operating & Maintenance Expenses	\$ 13,260	\$ 10,434	2,826
Return on Rate Base	9,526	8,651	875
Depreciation - GPIS	7,722	7,720	2
Depreciation - General Plant	162	136	26
Income Taxes	388	374	14
Amortization Expense	234	234	-
Taxes - Other than Income Taxes	1,621	1,641	(20)
Special Charge	546	518	28
Sub-Total	\$ 33,459	\$ 29,708	3,751
Shippers' Share of Incentive Savings	(97)	-	(97)
Total	\$ 33,362	\$ 29,708	\$ 3,654



NOVA

**FOOTHILLS PIPE LINES (ALTA.) LTD. - ZONE 6
COST OF SERVICE EXCLUDING O&M EXPENSE - DEFICIENCY/(OVERPAYMENT) CALCULATION**

Line	2003												TOTAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
ZONE ALLOCATION													
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
ACTUAL COST OF SERVICE													
1	5,220,423	5,091,466	6,402,918	3,698,064	5,041,672	5,325,884	4,865,428	5,120,785	6,094,474	6,094,474	46,861,114		1,081,256
2	1,714,114	1,674,792	2,864,219	423,167	1,786,055	2,096,224	1,650,436	1,748,857	2,205,116	2,205,116	16,142,980		108,626
3	3,506,309	3,416,674	3,538,699	3,274,897	3,275,617	3,229,660	3,214,992	3,371,928	3,689,358	3,689,358	30,718,134		108,626
BILLED COST OF SERVICE													
4	5,917,167	5,917,167	5,917,167	5,917,167	5,917,167	5,917,167	4,951,333	4,951,333	4,951,333	4,951,333	50,357,001		108,626
5	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	18,745,794		108,626
6	3,834,301	3,834,301	3,834,301	3,834,301	3,834,301	3,834,301	2,868,467	2,868,467	2,868,467	2,868,467	31,611,207		1,357,134
DEFICIENCY/(OVERPAYMENT) BALANCE													
Cash Receipts													
7	(327,992)	(417,627)	(295,602)	(559,404)	(558,684)	(604,641)	346,525	503,461	1,020,891	1,020,891	(893,073)		(226,189)
8	463,439	463,439	463,439	463,439	463,439	463,439	108,626	108,626	108,626	108,626	3,106,512		792,817
9	(1,150,949)	(1,019,818)	(978,017)	(814,157)	(913,514)	(1,012,565)	(1,157,876)	(707,308)	(97,891)	(97,891)	(1,150,949)		566,628
10	(4,316)	(4,011)	(3,977)	(3,392)	(3,806)	(4,109)	(4,583)	(2,670)	(370)	(370)	(31,234)		
11	(1,019,818)	(978,017)	(814,157)	(913,514)	(1,012,565)	(1,157,876)	(707,308)	(97,891)	(97,891)	(97,891)	1,031,256		
12	4.50%	4.72%	4.88%	5.00%	5.00%	4.87%	4.75%	4.53%	4.53%	4.53%	4.53%		

Billing Adjustment Calculation
For the Billing Period January 1 to June 30, 2004

Ending Balance (L11)
Billing Refunds For:
November 2003
December 2003
January 2004

Billing Collection Cost of Service Excluding O&M
Billing Refund O&M Expense (Page 4)

Billing Refund July - December 2003

* Agrees to adjustments actually billed.



**FOOTHILLS PIPE LINES (ALTA.) LTD. - ZONE 6
O&M EXPENSE - DEFICIENCY/(OVERPAYMENT) CALCULATION**

NOVA

Line	2003												TOTAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	100.00%	100.00%	100.00%	
ZONE ALLOCATION													
ACTUAL O&M EXPENSE													
1	1,075,215	967,060	1,891,633	(191,561)	1,194,167	1,036,454	1,046,478	1,025,188	1,126,798	1,126,798	9,171,432		(4,191,668)
2	538,899	707,732	972,586	614,728	571,888	1,059,770	603,958	723,669	1,078,318	1,078,318	6,971,548		
3	1,714,114	1,674,792	2,864,219	423,167	1,766,055	2,096,224	1,650,436	1,748,857	2,205,116	2,205,116	16,142,960		
4	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	2,082,866	18,745,794		
5	(368,752)	(408,074)	781,353	(1,659,699)	(316,811)	13,358	(432,430)	(384,009)	122,250	122,250	(2,602,814)		
CARRYING CHARGE CALCULATION													
6	(1,605,252)	(1,490,807)	(1,905,237)	(1,129,841)	(2,797,509)	(3,126,636)	(3,126,278)	(3,572,273)	(4,109,867)	(4,109,867)			
7	Closing Balance Before												
8	Current Month's Carrying Costs	(1,485,013)	(1,123,884)	(2,789,540)	(3,114,320)	(3,113,278)	(3,558,708)	(4,094,693)	(4,176,028)	(4,176,028)			
9	Average Balance ((L6 + L7)/2)	(1,545,133)	(1,694,844)	(1,514,561)	(1,959,691)	(2,955,915)	(3,119,957)	(3,342,493)	(3,833,483)	(4,142,948)			
10	Interest Rate	4.50%	4.50%	4.72%	4.88%	5.00%	5.00%	4.87%	4.75%	4.53%			
11	Carrying Charges ((L8 * L9)/12)	(5,794)	(6,356)	(5,957)	(7,969)	(12,316)	(13,000)	(13,565)	(15,174)	(15,640)	(95,771)		
AMOUNTS INCLUDED IN ACCOUNT 179													
12	Opening Balance(Previous L15)	(1,605,252)	(1,490,807)	(1,905,237)	(1,129,841)	(2,797,509)	(3,126,636)	(3,126,278)	(3,572,273)	(4,109,867)	(1,605,252)		
13	Additions (L5)	(368,752)	(408,074)	781,353	(1,659,699)	(316,811)	13,358	(432,430)	(384,009)	122,250	(2,602,814)		
14	(Collection) Refund	488,991	0	0	0	0	0	0	(188,411)	(188,411)	112,169		
15	Carrying Charges (L10)	(5,794)	(6,356)	(5,957)	(7,969)	(12,316)	(13,000)	(13,565)	(15,174)	(15,640)	(95,771)		
16	Ending Balance (L11 thru L14)	(1,490,807)	(1,905,237)	(1,129,841)	(2,797,509)	(3,126,636)	(3,126,278)	(3,572,273)	(4,109,867)	(4,109,867)	(4,191,668)		

Billing Adjustment Calculation
For the Billing Period January 1 to June 30, 2004

Ending Balance (L11)
Billing Refunds For:
October 2003
November 2003
December 2004

Billing Refund January-June 2004

792,817



FOOTHILLS PIPE LINES (ALTA.) LTD. - ZONE 7 COST OF SERVICE (\$000's)

	2004		2003		Increase (Decrease)
	Forecast Jan - Jun	Forecast Jul - Dec	Forecast Jul - Dec	Forecast Jul - Dec	
Operating & Maintenance Expenses	\$ 888	\$ 489	\$ 489	\$ 399	399
Return on Rate Base	1,273	1,176	1,176	97	97
Depreciation - GPIS	1,470	1,464	1,464	6	6
Depreciation - General Plant	117	72	72	45	45
Income Taxes	(76)	(61)	(61)	(15)	(15)
Amortization Expense	60	60	60	-	-
Taxes - Other than Income Taxes	364	368	368	(4)	(4)
Special Charge	60	94	94	(34)	(34)
Sub-Total	\$ 4,156	\$ 3,662	\$ 3,662	494	494
Shippers' Share of Incentive Savings	(11)	-	-	(11)	(11)
Total	\$ 4,145	\$ 3,662	\$ 3,662	\$ 483	\$ 483



NOVA

**FOOTHILLS PIPE LINES (ALTA.) LTD. - ZONE 7
COST OF SERVICE EXCLUDING O&M EXPENSE - DEFICIENCY/(OVERPAYMENT) CALCULATION**

Line	2003 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
ZONE ALLOCATION										
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
ACTUAL COST OF SERVICE										
1	671,881	606,031	666,707	599,736	646,424	840,469	592,994	612,752	788,842	6,025,636
2	<u>122,962</u>	<u>67,870</u>	<u>114,466</u>	<u>74,010</u>	<u>118,684</u>	<u>315,293</u>	<u>80,586</u>	<u>70,095</u>	<u>120,022</u>	<u>1,063,988</u>
3	<u>548,919</u>	<u>538,161</u>	<u>552,241</u>	<u>525,726</u>	<u>527,740</u>	<u>525,176</u>	<u>512,408</u>	<u>542,657</u>	<u>668,820</u>	<u>4,941,648</u>
BILLED COST OF SERVICE										
4	660,500	660,500	660,500	660,500	660,500	660,500	610,333	610,333	610,333	5,793,999
5	<u>97,000</u>	<u>97,000</u>	<u>97,000</u>	<u>97,000</u>	<u>97,000</u>	<u>97,000</u>	<u>97,000</u>	<u>97,000</u>	<u>97,000</u>	<u>873,000</u>
6	<u>563,500</u>	<u>563,500</u>	<u>563,500</u>	<u>563,500</u>	<u>563,500</u>	<u>563,500</u>	<u>513,333</u>	<u>513,333</u>	<u>513,333</u>	<u>4,920,999</u>
DEFICIENCY/(OVERPAYMENT) BALANCE										
Cash Receipts										
7	(14,581)	(25,339)	(11,259)	(37,774)	(35,760)	(36,324)	(925)	29,324	155,487	20,849
8	15,208	15,208	15,208	15,208	15,208	15,208	1,504	1,504	1,504	95,760
9	(57,442)	(57,030)	(67,365)	(63,710)	(86,541)	(107,454)	(131,006)	(130,946)	(100,612)	(57,442)
10	(215)	(224)	(274)	(265)	(361)	(436)	(519)	(494)	(360)	(3,168)
11	<u>(57,030)</u>	<u>(67,385)</u>	<u>(63,710)</u>	<u>(86,541)</u>	<u>(107,454)</u>	<u>(131,006)</u>	<u>(130,946)</u>	<u>(100,612)</u>	<u>55,999</u>	<u>55,999</u>
12	4.50%	4.72%	4.86%	5.00%	5.00%	4.87%	4.75%	4.53%	4.53%	

**Billing Adjustment Calculation
For the Billing Period January 1 to June 30, 2004**

Ending Balance (L11) 55,999
 Billing Refunds For:
 November 2003 1,504
 December 2003 1,504
 January 2004 50,511

Billing Collection Cost of Service Excluding O&M (10,085)
 Billing Collection O&M Expense (Page 4) (32,523)

Billing Collection July - December 2003 (42,608)

* Agrees to adjustments actually billed.



NOVA

**FOOTHILLS PIPE LINES (ALTA.) LTD. - ZONE 7
O&M EXPENSE - DEFICIENCY(OVERPAYMENT) CALCULATION**

Line	2003 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
ZONE ALLOCATION										
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
ACTUAL O&M EXPENSE										
1	Operator Companies	5,367	5,469	5,470	5,470	5,470	15,182	(4,243)	5,470	49,125
2	Foothills Pipe Lines Ltd.	117,595	62,401	108,996	68,540	113,214	55,404	74,338	114,552	1,034,863
3	Actual O&M Expense	122,962	67,870	114,466	74,010	118,684	80,586	70,095	120,022	1,083,988
4	Approved Budget	97,000	97,000	97,000	97,000	97,000	97,000	97,000	97,000	873,000
5	Variance (L3 - L4)	25,962	(29,130)	17,466	(22,990)	21,684	(16,414)	(26,905)	23,022	210,988
CARRYING CHARGE CALCULATION										
6	Opening Balance (L11)	(131,617)	(73,333)	(102,793)	(85,697)	(109,082)	(87,807)	114,658	104,879	
7	Closing Balance Before Current Month's Carrying Costs	(72,949)	(102,463)	(85,327)	(108,687)	(87,398)	130,486	114,161	144,593	
8	Average Balance ((L6 + L7)/2)	(102,283)	(87,898)	(94,060)	(97,192)	(98,240)	122,368	109,552	124,736	
9	Interest Rate	4.50%	4.50%	4.72%	4.88%	5.00%	5.00%	4.87%	4.75%	4.53%
10	Carrying Charges ((L8 * L9)/12)	(384)	(330)	(370)	(395)	(409)	89	434	471	(397)
AMOUNTS INCLUDED IN ACCOUNT 179										
11	Opening Balance(Previous L15)	(131,617)	(73,333)	(102,793)	(85,697)	(109,082)	(87,807)	114,658	104,879	(131,617)
12	Additions (L5)	25,962	(29,130)	17,466	(22,990)	21,684	218,293	(16,414)	23,022	210,988
13	(Collection) Refund	32,706	0	0	0	0	0	16,692	16,692	66,090
14	Carrying Charges (L10)	(384)	(330)	(370)	(395)	(409)	89	434	471	(397)
15	Ending Balance (L11 thru L14)	(73,333)	(102,793)	(85,697)	(109,082)	(87,807)	130,575	114,658	145,064	145,064

**Billing Adjustment Calculation
For the Billing Period January 1 to June 30, 2004**

Ending Balance (L11)
Billing Refunds For:
October 2003 16,692
November 2003 16,692
December 2004 195,140
145,064

**Billing Collection January-June 2004
(32,523)**

FOOTHILLS PIPELINES LTD. – 2004 FORECAST COST OF SERVICE (000'S)

	<u>Zone 6</u>	<u>Zone 7</u>
Operating & maintenance Express	\$ 27,029	\$ 1,780
Return on Rate Base	19,218	2,567
Depreciation – GPIS	15,452	2,940
Depreciation – General Plant	322	271
Income Taxes	485	(180)
Amortization Expense	468	120
Taxes – Other than Income Taxes	3,270	732
Special Charge	1,092	120
Subtotal	<u>\$ 67,336</u>	<u>\$ 8,350</u>
Shippers's Share of Incentive Savings	<u>(264)</u>	<u>(30)</u>
Total	<u><u>\$ 67,062</u></u>	<u><u>\$ 8,320</u></u>

CAPP-NGTL-040(a)

Issue:

Code of Conduct

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 6, Line 11.

Preamble:

The term “regulated affiliates” was adopted for the NGTL Code.

Request:

Please explain the purpose of the different treatment of “regulated affiliates”. Include NGTL’s assessment of the pros and cons/pluses and minuses of NGTL’s proposed treatment of regulated affiliates. What do the regulated affiliate provisions allow that is not allowed for other affiliates? Please be specific.

Response:

NGTL explains in the Application, Section 9, page 6, lines 7-17, why it uses the terms “Regulated Affiliate” and “Non-Regulated Affiliate”. NGTL believes its use of these terms does not change the underlying purposes of the Board’s prescribed Code for the ATCO Group.

CAPP-NGTL-040(b)

Issue:

Code of Conduct

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 6, Line 11.

Preamble:

The term “regulated affiliates” was adopted for the NGTL Code.

Request:

Explain how the “regulated affiliate” concept works in regard to (a) customer confidential information; (b) operational information and data; (c) business development initiatives; (d) system planning and design; (e) system operations; (f) business strategy; (g) commercial negotiations and other commercial arrangements.

Response:

The proposed Code establishes the relationships between Regulated Affiliates and Non-Regulated Affiliates under the various circumstances. For example, the provisions in Section 6 govern confidential information.

CAPP-NGTL-040(c)

Issue:

Code of Conduct

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 6, Line 11.

Preamble:

The term “regulated affiliates” was adopted for the NGTL Code.

Request:

How does the “regulated affiliate” concept fit with the TransCanada “one company” model? Explain the “one company” model of operation.

Response:

NGTL describes in the Application, Section 9, pages 4-5, the integrated nature of the TCPL organization and how NGTL fits within it. The proposed NGTL Code reflects the integrated nature of TCPL’s organization structure.

CAPP-NGTL-040(d)

Issue:

Code of Conduct

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 6, Line 11.

Preamble:

The term “regulated affiliates” was adopted for the NGTL Code.

Request:

Are there any restrictions on data among regulated affiliates? Are there any “need to know” restrictions? Is all information open to be shared without restriction among regulated affiliates?

Response:

The proposed NGTL Code establishes the standards for information sharing among Regulated Affiliates. Specifically, reference Section 6 – Confidentiality of Information.

CAPP-NGTL-040(e)

Issue:

Code of Conduct

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 6, Line 11.

Preamble:

The term “regulated affiliates” was adopted for the NGTL Code.

Request:

Does NGTL’s precedent agreements or contracts with prospective or actual shippers allow for unrestricted flow of data across regulated affiliates? Provide pro forma text used in agreements and contracts that demonstrate such an understanding.

Response:

The pro forma service agreements in NGTL’s Tariff do not contain provisions that relate to the exchange of data across Regulated Affiliates.

CAPP-NGTL-040(f)

Issue:

Code of Conduct

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 6, Line 11.

Preamble:

The term “regulated affiliates” was adopted for the NGTL Code.

Request:

Please list all of NGTL’s regulated affiliates.

Response:

NGTL’s Regulated Affiliates are:

TransCanada PipeLines Limited
Foothills Pipe Lines (Alta.) Ltd.
Foothills Pipe Lines (South B.C.) Ltd.
Foothills Pipe Lines (Sask) Ltd.
TCPL Portland Inc.

CAPP-NGTL-040(g)

Issue:

Code of Conduct

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 6, Line 11.

Preamble:

The term “regulated affiliates” was adopted for the NGTL Code.

Request:

For any US “regulated affiliates”, explain how the flow of NGTL customer data and other information comports with the rules and regulations of the applicable U.S. regulatory authorities.

Response:

NGTL is not subject to the rules and regulations of U.S regulatory authorities governing gas transportation.

CAPP-NGTL-040(h)

Issue:

Code of Conduct

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 6, Line 11.

Preamble:

The term “regulated affiliates” was adopted for the NGTL Code.

Request:

For regulated entities in which TransCanada has a 50% or lower level of ownership, please explain what type of information is shared among the various regulated TransCanada business units. How does this differ (a) from the sharing of information among regulated business units that are “affiliates” and (b) from the sharing of information with pipelines in which TransCanada has no ownership interests? Business unit in this case refers to a pipeline business with its own tolls and tariffs (e.g. Mainline, B.C. System, Foothills, PNGTS, etc.).

Response:

The proposed Code governs the interaction of NGTL and Regulated and Non-Regulated Affiliates. The Code does not govern, and is irrelevant to, the relationships between these entities, exclusive of NGTL.

The information NGTL shares with an entity in which TransCanada has a 50% or lower level of ownership (regulated or otherwise) does not differ from the information that is shared with entities in which TransCanada has no ownership interest.

CAPP-NGTL-040(i)

Issue:

Code of Conduct

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 6, Line 11.

Preamble:

The term “regulated affiliates” was adopted for the NGTL Code.

Request:

Does “regulation” as it relates to a “regulated affiliate” mean active regulation or does it include businesses that are only subject to complaint processes?

Response:

“Regulation” means the oversight exercised by a regulatory authority over the tolls and tariff of the Affiliate.

CAPP-NGTL-040(j)

Issue:

Code of Conduct

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 6, Line 11.

Preamble:

The term “regulated affiliates” was adopted for the NGTL Code.

Request:

Is Ventures a regulated affiliate?

Response:

TransCanada Pipeline Ventures Ltd. is not a Regulated Affiliate under the proposed Code.

CAPP-NGTL-041(a)

Issue:

Code of Conduct – Separate Management Exemption

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 3.1.4, Page 7.

Request:

How many officers fall under this exemption? List them all by title and role.

Response:

Please refer to the response to CAPP-NGTL-041(b).

CAPP-NGTL-041(b)

Issue:

Code of Conduct – Separate Management Exemption

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 3.1.4, Page 7.

Request:

Provide a chart or other description showing the common functions of each common officer.

Response:

Please refer to Attachment CAPP-NGTL-041(b).

CAPP-NGTL-041 (b)

Information as at 11/15/2003

Albrecht W.A. Bellstedt

Company/Title	Date Elected	End Date
2233 Delaware L.L.C. <i>Vice-President</i>	9/19/2001	
3399516 Canada Ltd. <i>President</i>	2/01/1999	
672483 Alberta Ltd. <i>President</i>	3/31/2002	
701671 Alberta Ltd. <i>President</i>	12/31/2001	
790821 Alberta Ltd. <i>President</i>	2/01/1999	
Alberta Inter-Field Gas Lines Limited <i>President</i>	12/12/2000	
NOVA Gas Transmission Ltd. <i>Executive Vice-President</i>	4/22/2002	
TCPL CentrOriente Ltd. <i>Vice-President</i>	2/01/1999	
TCPL Project Engineering Ltd. <i>Vice-President</i>	2/01/1999	
TransCanada Corporation <i>General Counsel</i>	5/15/2003	
TransCanada Corporation <i>Executive Vice-President, Law</i>	5/15/2003	
TransCanada Energy Investments Ltd. <i>General Counsel</i>	1/31/2003	
TransCanada Energy Investments Ltd. <i>Vice-President</i>	1/31/2003	

Company/Title	Date Elected	End Date
TransCanada Overseas Holdings Limited <i>General Counsel</i>	8/02/2000	
TransCanada Overseas Holdings Limited <i>Vice-President</i>	8/02/2000	
TransCanada PipeLine USA Ltd. <i>Senior Vice-President, Law & Administration</i>	3/23/2000	
TransCanada PipeLines Colombia Limited <i>Vice-President</i>	7/30/1999	
TransCanada PipeLines Limited <i>Executive Vice-President, Law</i>	6/21/2000	
TransCanada PipeLines Limited <i>General Counsel</i>	6/21/2001	
Western Pipe Lines <i>Vice-President</i>	2/01/1999	

Russell K. Girling

Company/Title	Date Elected	End Date
1202053 Ontario Limited <i>President</i>	8/31/2001	
2233 Delaware L.L.C. <i>Chief Financial Officer</i>	9/19/2001	
2233 Delaware L.L.C. <i>Vice-President</i>	9/19/2001	
NOVA Gas Transmission Ltd. <i>Chief Financial Officer</i>	4/22/2002	
NOVA Gas Transmission Ltd. <i>Executive Vice-President</i>	4/22/2002	
Northridge Energy Marketing Corp. <i>President</i>	7/31/2001	
Northridge Gas Marketing U.S., Inc. <i>President</i>	7/31/2001	
Northridge Ventures Inc. <i>President</i>	7/31/2001	
Northwest Border Pipeline Company <i>President</i>	9/12/2003	
TC PipeLines GP, Inc. <i>Chief Financial Officer</i>	4/12/1999	
TCM Facilities Ltd. <i>Chief Financial Officer</i>	12/17/1999	
TransCanada Border PipeLine Ltd. <i>Treasurer</i>	11/15/1999	
TransCanada Corporation <i>Chief Financial Officer</i>	5/15/2003	
TransCanada Corporation <i>Executive Vice-President, Corporate Development</i>	5/15/2003	
TransCanada Energy Investments Ltd. <i>Chief Financial Officer</i>	1/31/2003	

TransCanada Energy Investments Ltd. <i>Vice-President</i>	1/31/2003
TransCanada Energy USA Inc. <i>President</i>	7/31/2001
TransCanada Gas Processing Ltd. <i>Chief Financial Officer</i>	12/17/1999
TransCanada Gas Services Inc. <i>President</i>	7/31/2001
TransCanada Hungarian Holdings Limited <i>President</i>	8/02/2000
TransCanada Overseas Holdings Limited <i>President</i>	8/02/2000
TransCanada PipeLine USA Ltd. <i>Chief Financial Officer</i>	3/23/2000
TransCanada PipeLine USA Ltd. <i>Senior Vice-President</i>	3/23/2000
TransCanada PipeLines Limited <i>Chief Financial Officer</i>	8/01/1999
TransCanada PipeLines Limited <i>Executive Vice-President, Corporate Development</i>	3/15/2003
TransCanada Power Services Ltd. <i>Chief Financial Officer</i>	2/09/1999
TransCanada Power Services Ltd. <i>Chairman of the Board</i>	5/15/2001
TransCanada Viking Ltd. <i>President</i>	4/23/2003
Western Pipe Lines <i>Treasurer</i>	9/21/1999
Western Pipe Lines <i>Vice-President</i>	9/21/1999

Harold N. Kvisle

Company/Title	Date Elected	End Date
2233 Delaware L.L.C. <i>President</i>	9/19/2001	
NOVA Gas Transmission Ltd. <i>Chief Executive Officer</i>	4/22/2002	
TransCanada Corporation <i>Chief Executive Officer</i>	5/15/2003	
TransCanada Corporation <i>President</i>	5/15/2003	
TransCanada Energy Ltd. <i>President</i>	9/01/1999	
TransCanada PipeLine USA Ltd. <i>President</i>	12/12/2000	
TransCanada PipeLines Limited <i>Chief Executive Officer</i>	5/01/2001	
TransCanada PipeLines Limited <i>President</i>	5/01/2001	

Dennis J. McConaghy

Company/Title	Date Elected	End Date
NOVA Gas Transmission Ltd. <i>Executive Vice-President</i>	4/22/2002	
Novagas Canada Ltd. <i>President</i>	9/01/1999	
TCM Facilities Ltd. <i>Chief Executive Officer</i>	12/31/2001	
TCM Facilities Ltd. <i>President</i>	12/31/2001	
TransCanada Alaska Northwest Ltd. <i>President</i>	4/23/2003	
TransCanada Corporation <i>Executive Vice-President, Gas Development</i>	5/15/2003	
TransCanada Energy Ltd. <i>Vice-President</i>	10/01/2000	
TransCanada Gas Liquids Ltd. <i>President</i>	9/01/1999	
TransCanada Gas Processing Ltd. <i>Chief Executive Officer</i>	12/31/2001	
TransCanada Gas Processing Ltd. <i>President</i>	12/31/2001	
TransCanada PipeLine USA Ltd. <i>Vice-President</i>	12/12/2000	
TransCanada PipeLines Limited <i>Executive Vice-President, Gas Development</i>	5/01/2001	
TransCanada PipeLines Services Ltd. <i>President</i>	12/01/2000	

Ronald J. Turner

Company/Title	Date Elected	End Date
NOVA Gas Transmission Ltd. <i>President</i>	12/12/2000	
TC PipeLines GP, Inc. <i>Chief Executive Officer</i>	12/12/2000	
TC PipeLines GP, Inc. <i>President</i>	12/12/2000	
TCPL CentrOriente Ltd. <i>President</i>	10/01/1999	
TCPL Northeast Ltd. <i>President</i>	2/01/2001	
TCPL Project Engineering Ltd. <i>Vice-President</i>	09/21/1999	
TransCan Northern Ltd. <i>President</i>	12/31/2000	
TransCanada GL, Inc. <i>President</i>	12/12/2000	
TransCanada Iroquois Ltd. <i>President</i>	12/12/2000	
TransCanada Corporation <i>Executive Vice-President, Gas Transmission</i>	05/15/2003	
TransCanada PipeLines Colombia Limited <i>President</i>	10/01/1999	
TransCanada PipeLines Limited <i>Executive Vice-President, Gas Transmission</i>	03/15/2003	
Western Pipe Lines <i>President</i>	12/31/2000	

Ronald L. Cook

Company/Title	Date Elected	End Date
1202053 Ontario Limited <i>Vice-President, Taxation</i>	4/15/2002	
2233 Delaware L.L.C. <i>Vice-President, Taxation</i>	4/15/2002	
3399516 Canada Ltd. <i>Vice-President, Taxation</i>	4/15/2002	
701671 Alberta Ltd. <i>Vice-President, Taxation</i>	4/15/2002	
779540 Alberta Ltd. <i>Vice-President, Taxation</i>	4/15/2002	
790821 Alberta Ltd. <i>Vice-President, Taxation</i>	4/15/2002	
Alberta Inter-Field Gas Lines Limited <i>Vice-President, Taxation</i>	4/15/2002	
Cancarb Limited <i>Vice-President, Taxation</i>	4/15/2002	
Manchief Holding Company <i>Vice-President, Taxation</i>	6/19/2002	
NOVA Gas Transmission Ltd. <i>Vice-President, Taxation</i>	4/15/2002	
Northridge Energy Marketing Corp. <i>Vice-President, Taxation</i>	4/15/2002	
Northridge Gas Marketing U.S., Inc. <i>Vice-President, Taxation</i>	4/15/2002	
Northridge Ventures Inc. <i>Vice-President, Taxation</i>	4/15/2002	
Northwest Border Pipeline Company <i>Vice-President, Taxation</i>	8/15/2002	
OSP Finance Company <i>Vice-President, Taxation</i>	4/15/2002	

Polar Gas Limited	4/15/2002
<i>Vice-President, Taxation</i>	
TC Ocean State Corporation	4/15/2002
<i>Vice-President, Taxation</i>	
TC PipeLines GP, Inc.	4/15/2002
<i>Vice-President, Taxation</i>	
TC Power Operations Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TCPL CentrOriente Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TCPL Mayflower Inc.	4/15/2002
<i>Vice-President, Taxation</i>	
TCPL Northeast Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TCPL OSP Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TCPL Ocean State Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TCPL Portland Inc.	4/15/2002
<i>Vice-President, Taxation</i>	
TCPL Power Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TCPL Project Engineering Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TCPL Storage Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TCPL Tuscarora Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TransCan Northern Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TransCan Northwest Border Ltd.	8/15/2002
<i>Vice-President, Taxation</i>	
TransCanada (Curtis Palmer) Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	

TransCanada (Hydroelectric) USA Ltd. <i>Vice-President, Taxation</i>	4/15/2002
TransCanada Alaska Northwest Ltd. <i>Vice-President, Taxation</i>	4/23/2003
TransCanada Border PipeLine Ltd. <i>Vice-President, Taxation</i>	4/15/2002
TransCanada Calibrations Ltd. <i>Vice-President, Taxation</i>	4/15/2002
TransCanada Corporation <i>Vice-President, Taxation</i>	5/15/2003
TransCanada Energy Investments Ltd. <i>Vice-President, Taxation</i>	1/31/2003
TransCanada Energy Ltd. <i>Vice-President, Taxation</i>	4/15/2002
TransCanada Energy USA Inc. <i>Vice-President, Taxation</i>	4/15/2002
TransCanada GL, Inc. <i>Vice-President, Taxation</i>	4/15/2002
TransCanada Gas Processing Ltd. <i>Vice-President, Taxation</i>	4/15/2002
TransCanada Gas Services Inc. <i>Vice-President, Taxation</i>	4/15/2002
TransCanada Hungarian Holdings Limited <i>Vice-President, Taxation</i>	4/15/2002
TransCanada International Business Development Ltd. <i>Vice-President, Taxation</i>	4/15/2002
TransCanada Iroquois Ltd. <i>Vice-President, Taxation</i>	4/15/2002
TransCanada OSP Holdings Ltd. <i>Vice-President, Taxation</i>	4/15/2002
TransCanada Overseas Holdings Limited <i>Vice-President, Taxation</i>	4/15/2002

TransCanada PipeLine USA Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TransCanada PipeLines Colombia Limited	4/15/2002
<i>Vice-President, Taxation</i>	
TransCanada PipeLines Limited	4/15/2002
<i>Vice-President, Taxation</i>	
TransCanada PipeLines Services Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TransCanada Power Marketing Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TransCanada Power Services Ltd.	4/15/2002
<i>Vice-President, Taxation</i>	
TransCanada Viking Ltd.	4/23/2003
<i>Vice-President, Taxation</i>	
Western Pipe Lines	4/15/2002
<i>Vice-President, Taxation</i>	

Max Feldman

Company/Title	Date Elected	End Date
3399516 Canada Ltd. <i>Vice-President</i>	8/15/2003	
Foothills Pipe Lines (Alta.) Ltd. <i>President</i>	8/15/2003	
Foothills Pipe Lines (Sask.) Ltd. <i>President</i>	8/15/2003	
Foothills Pipe Lines (South B.C.) Ltd. <i>President</i>	8/15/2003	
Foothills Pipe Lines Ltd. <i>Chief Operating Officer</i>	8/15/2003	
NOVA Gas Transmission Ltd. <i>Senior Vice-President, Cust Sales & Serv</i>	9/21/1999	
TC PipeLines GP, Inc. <i>Vice-President</i>	9/23/2003	
TCPL Tuscarora Ltd. <i>President</i>	9/12/2003	
TransCan Northern Ltd. <i>Vice-President</i>	9/12/2003	

Rhondda E.S. Grant

Company/Title	Date Elected	End Date
TransCanada Energy Management Inc. <i>Secretary</i>	1/31/2003	
1202053 Ontario Limited <i>Corporate Secretary</i>	10/13/2000	
2233 Delaware L.L.C. <i>Corporate Secretary</i>	9/19/2001	
3399516 Canada Ltd. <i>Secretary</i>	10/01/1998	
413909 Alberta Ltd. <i>Corporate Secretary</i>	11/01/1999	
672483 Alberta Ltd. <i>Secretary</i>	3/31/2002	
701671 Alberta Ltd. <i>Secretary</i>	10/01/2000	
779540 Alberta Ltd. <i>Secretary</i>	7/03/1998	
790821 Alberta Ltd. <i>Secretary</i>	2/01/1999	
Alberta Inter-Field Gas Lines Limited <i>Secretary</i>	7/03/1998	
Cancarb Limited <i>Secretary</i>	7/03/1998	
CrossAlta Gas Storage & Services Ltd. <i>Secretary</i>	7/03/1998	
NOVA Gas Transmission Ltd. <i>Corporate Secretary</i>	7/03/1998	
NOVA Gas Transmission Ltd. <i>Vice-President</i>	12/12/2000	
Northridge Energy Marketing Corp. <i>Secretary</i>	10/01/2000	

Northridge Gas Marketing U.S., Inc. <i>Secretary</i>	10/01/2000
Northridge Ventures Inc. <i>Secretary</i>	10/01/2000
Northwest Border Pipeline Company <i>Secretary</i>	8/15/2002
Novacorp Realty Finance Ltd. <i>Corporate Secretary</i>	4/03/2000
Novagas Canada Ltd. <i>Corporate Secretary</i>	12/31/2000
Novagas Canada Pipelines Ltd. <i>Corporate Secretary</i>	10/03/2000
OSP Finance Company <i>Assistant Secretary</i>	7/03/1998
Polar Gas Limited <i>Secretary</i>	8/01/1998
Saddlebrook Industrial Park Ltd. <i>Corporate Secretary</i>	12/31/2000
TC Ocean State Corporation <i>Secretary</i>	10/13/2000
TC Power Operations Ltd. <i>Secretary</i>	10/18/2000
TCM Facilities Ltd. <i>Corporate Secretary</i>	12/31/2000
TCPL CentrOriente Ltd. <i>Secretary</i>	7/03/1998
TCPL Mayflower Inc. <i>Secretary</i>	7/03/1998
TCPL Northeast Ltd. <i>Secretary</i>	1/15/1999
TCPL OSP Ltd. <i>Secretary</i>	9/01/1998
TCPL Ocean State Ltd. <i>Secretary</i>	6/30/1998

TCPL Portland Inc. <i>Secretary</i>	7/03/1998
TCPL Power Ltd. <i>Secretary</i>	7/03/1998
TCPL Project Engineering Ltd. <i>Secretary</i>	7/03/1998
TCPL Storage Ltd. <i>Secretary</i>	7/03/1998
TCPL Tuscarora Ltd. <i>Secretary</i>	7/03/1998
TransCan Northern Ltd. <i>Secretary</i>	7/03/1998
TransCan Northwest Border Ltd. <i>Secretary</i>	8/15/2002
TransCanada (Curtis Palmer) Ltd. <i>Secretary</i>	4/09/2001
TransCanada (Hydroelectric) USA Ltd. <i>Secretary</i>	4/09/2001
TransCanada Alaska Northwest Ltd. <i>Secretary</i>	4/23/2003
TransCanada Border PipeLine Ltd. <i>Secretary</i>	7/03/1998
TransCanada Calibrations Ltd. <i>Secretary</i>	7/03/1998
TransCanada Corporation <i>Corporate Secretary</i>	5/15/2003
TransCanada Corporation <i>Vice-President</i>	5/15/2003
TransCanada Energy Ltd. <i>Assistant Secretary</i>	7/03/1998
TransCanada Energy USA Inc. <i>Corporate Secretary</i>	7/03/1998
TransCanada GL, Inc. <i>Secretary</i>	7/03/1998

TransCanada Gas Liquids Ltd. <i>Corporate Secretary</i>	12/31/2000
TransCanada Gas Processing Ltd. <i>Corporate Secretary</i>	7/13/1998
TransCanada Gas Services Inc. <i>Corporate Secretary</i>	7/03/1998
TransCanada Hungarian Holdings Limited <i>Corporate Secretary</i>	8/02/2000
TransCanada Hungarian Holdings Limited <i>Vice-President</i>	8/02/2000
TransCanada International Business Development Ltd. <i>Secretary</i>	7/03/1998
TransCanada Iroquois Ltd. <i>Secretary</i>	7/03/1998
TransCanada OSP Holdings Ltd. <i>Secretary</i>	7/03/1998
TransCanada Overseas Holdings Limited <i>Corporate Secretary</i>	8/02/2000
TransCanada Overseas Holdings Limited <i>Vice-President</i>	8/02/2000
TransCanada PipeLine USA Ltd. <i>Corporate Secretary</i>	3/23/2000
TransCanada PipeLine USA Ltd. <i>Vice-President</i>	3/23/2000
TransCanada PipeLines Colombia Limited <i>Secretary</i>	7/03/1998
TransCanada PipeLines Limited <i>Corporate Secretary</i>	7/02/1998
TransCanada PipeLines Limited <i>Vice-President</i>	9/21/1999
TransCanada PipeLines Services Ltd. <i>Secretary</i>	9/25/1998

TransCanada Pipeline Ventures Ltd. <i>Corporate Secretary</i>	9/21/1999
TransCanada Power Marketing Ltd. <i>Secretary</i>	7/03/1998
TransCanada Viking Ltd. <i>Secretary</i>	4/23/2003
TransVoyageur Transmission Ltd. <i>Secretary</i>	7/03/1998
Western Pipe Lines <i>Secretary</i>	7/03/1998

Brian McConaghy

Company/Title	Date Elected	End Date
NOVA Gas Transmission Ltd. <i>Vice-President, Health, Safety and Environment</i>	11/30/2000	

Alexander J. Pochmursky

Company/Title	Date Elected	End Date
NOVA Gas Transmission Ltd. <i>Vice-President, Procurement</i>	11/30/2000	
NrG Information Services Inc. <i>President</i>	4/15/2003	

Alexander J. Pourbaix

Company/Title	Date Elected	End Date
TransCanada Energy Management Inc. <i>President</i>	1/31/2003	
779540 Alberta Ltd. <i>President</i>	7/31/2001	
Cancarb Limited <i>Chairman</i>	12/31/2001	
Manchief Holding Company <i>President</i>	6/19/2002	
NOVA Gas Transmission Ltd. <i>Executive Vice-President</i>	4/22/2002	
OSP Finance Company <i>President</i>	7/31/2001	
TC Ocean State Corporation <i>President</i>	7/31/2001	
TC Power Operations Ltd. <i>President</i>	7/31/2001	
TCPL OSP Ltd. <i>President</i>	7/31/2001	
TCPL Ocean State Ltd. <i>President</i>	7/31/2001	
TCPL Power Ltd. <i>President</i>	7/31/2001	
TransCanada (Curtis Palmer) Ltd. <i>President</i>	4/09/2001	
TransCanada (Hydroelectric) USA Ltd. <i>President</i>	4/09/2001	
TransCanada Corporation <i>Executive Vice-President, Power</i>	5/15/2003	
TransCanada Energy Ltd. <i>Vice-President</i>	10/01/2000	

TransCanada OSP Holdings Ltd.	7/31/2001
<i>President</i>	
TransCanada PipeLines Limited	3/15/2003
<i>Executive Vice-President, Power</i>	
TransCanada Power Marketing Ltd.	7/31/2001
<i>President</i>	

Sarah E. Raiss

Company/Title	Date Elected	End Date
NOVA Gas Transmission Ltd. <i>Executive Vice-President</i>	4/22/2002	
TransCanada Corporation <i>Executive Vice-President, Corporate Services</i>	5/15/2003	
TransCanada PipeLines Limited <i>Executive Vice-President, Corporate Services</i>	1/29/2002	

Murray J. Samuel

Company/Title	Date Elected	End Date
NOVA Gas Transmission Ltd. <i>Vice-President, Operations & Engineering Law</i>	11/15/2001	
TransCanada Energy Ltd. <i>Assistant Secretary</i>	12/12/1997	
TransCanada Energy USA Inc. <i>Vice-President</i>	6/30/2002	
TransCanada Gas Services Inc. <i>Associate General Counsel</i>	7/03/1998	

Steven C. Schock

Company/Title	Date Elected	End Date
---------------	--------------	----------

TransCanada Energy Management Inc.	1/31/2003	
------------------------------------	-----------	--

Vice-President

NOVA Gas Transmission Ltd.	11/30/2000	
----------------------------	------------	--

Senior Vice-President, Engineering & Technical Services

TCPL Project Engineering Ltd.	12/31/2000	
-------------------------------	------------	--

Vice-President

Donald M. Wishart

Company/Title	Date Elected	End Date
3399516 Canada Ltd. <i>Vice-President</i>	8/15/2003	
NOVA Gas Transmission Ltd. <i>Senior Vice-President, Operations</i>	09/21/1999	
TCPL Project Engineering Ltd. <i>President</i>	12/31/2000	
TransCanada Corporation <i>Executive Vice-President, Operations & Engineering</i>	5/15/2003	
TransCanada PipeLines Limited <i>Executive Vice-President, Operations & Engineering</i>	3/15/2003	

CAPP-NGTL-041(c)

Issue:

Code of Conduct – Separate Management Exemption

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 3.1.4, Page 7.

Request:

Could any officer become a common officer under this exemption or are there officers whose functions would, in TransCanada's view, preclude them from being common officers?

Response:

Yes, any officer could become a common officer subject to the requirements of the proposed Code.

CAPP-NGTL-041(d)

Issue:

Code of Conduct – Separate Management Exemption

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 3.1.4, Page 7.

Request:

How many officers does TransCanada have by level – CEO, Executive VP, VP, etc.?

Response:

Please refer to Attachment CAPP-NGTL-041(d).

TransCanada PipeLines Limited**Officers**

Albrecht W.A. Bellstedt	Executive Vice-President, Law
Albrecht W.A. Bellstedt	General Counsel
Ronald L. Cook	Vice-President, Taxation
Russell K. Girling	Chief Financial Officer
Russell K. Girling	Executive Vice-President, Corporate Development
Rhonda E.S. Grant	Corporate Secretary
Rhonda E.S. Grant	Vice-President
Richard F. Haskayne	Chairman of the Board
Lee G. Hobbs	Controller
Lee G. Hobbs	Vice-President
Harold N. Kvisle	Chief Executive Officer
Harold N. Kvisle	President
Garry E. Lamb	Vice-President, Risk Management
Donald R. Marchand	Treasurer
Donald R. Marchand	Vice-President, Finance
Dennis J. McConaghy	Executive Vice-President, Gas Development
Alexander J. Pourbaix	Executive Vice-President, Power
Sarah E. Raiss	Executive Vice-President, Corporate Services
Harry G. Schaefer	Vice-Chairman

Directors / Officers Report

As of 12/5/2003

TransCanada PipeLines Limited

Ronald J. Turner

Executive Vice-President, Gas Transmission

Donald M. Wishart

Executive Vice-President, Operations & Engineering

CAPP-NGTL-041(e)

Issue:

Code of Conduct – Separate Management Exemption

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 3.1.4, Page 7.

Request:

Are there any employees below the level of VP who would fall under the exemption –
other senior staff, assistants?

Response:

No.

CAPP-NGTL-042(a)

Issue:

Code of Conduct – Affiliate Definition

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 2.1 (b).

Request:

Explain why, in NGTL’s view, intervenors should have the onus of establishing that a business unit or entity with 50% or less TransCanada ownership should be included?

Response:

NGTL adopted the definition of “Affiliate” in its entirety from the Board approved ATCO Code. NGTL accepts this definition for its proposed Code. NGTL bears the onus to justify its applied-for position.

If intervenors believe this definition is not appropriate, they will have an opportunity to express their concerns in this proceeding. Intervenors will bear the onus to justify any positions they may advocate, that differ from NGTL’s applied-for position.

CAPP-NGTL-042(b)

Issue:

Code of Conduct – Affiliate Definition

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 2.1 (b).

Request:

Given the large number of TransCanada businesses, why shouldn't NGTL have the onus of establishing the exclusion of entities from the "affiliate" definition?

Response:

Please refer to the response for CAPP-NGTL-042(a).

CAPP-NGTL-042(c)

Issue:

Code of Conduct – Affiliate Definition

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 2.1 (b).

Request:

For each of the various TransCanada entities that are not affiliates as defined, please explain the nature of the business. Please also explain any physical or operational connections or contracts with NGTL or other regulated businesses in which TransCanada has an ownership interest. Please explain any interaction between NGTL and the business. Please explain the circumstances in which employees who may work on NGTL affairs may be assigned to work on the affairs of businesses in which TransCanada has a 50% or less ownership.

Response:

The nature of the businesses in which TCPL has an interest can be categorized as pipeline, power, or international. The entities that fall into each of these categories are identified in the organizational charts in the Application, Section 9, Appendix B.

NGTL's Alberta System is not physically or operationally connected to any TransCanada entities that are not Affiliates.

NGTL does not have independent employees. TCPL employees provide services required to operate NGTL. These employees may also provide services to other TCPL businesses. The costs of providing these service are allocated to the appropriate entity in accordance with the TCPL Operating Cost Allocation Policy, as discussed in Sub-section 2.3 of the Application.

CAPP-NGTL-042(d)

Issue:

Code of Conduct – Affiliate Definition

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 2.1 (b).

Request:

How many employees currently working on NGTL affairs have in the last 24 months worked or are now working on the affairs of businesses in which TransCanada has a 50% or less ownership?

Response:

The requested information is not available.

CAPP-NGTL-042(e)

Issue:

Code of Conduct – Affiliate Definition

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 2.1 (b).

Request:

How does a project like the Mackenzie Valley pipeline fit into the Code?

Response:

The Code of Conduct establishes the standards and conditions of conduct that govern the interaction of NGTL with other affiliated TCPL regulated and non-regulated companies. The Code establishes parameters for transactions, information sharing, and the sharing of services and resources between NGTL and affiliated companies. NGTL will adhere to the requirements of the proposed Code for any projects in which it is involved.

CAPP-NGTL-042(f)

Issue:

Code of Conduct – Affiliate Definition

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 2.1 (b).

Request:

Can the same employee work on both regulated and non-regulated affiliates (e.g. any or all of Mackenzie Valley Pipeline, the NGTL system and a Ventures non-regulated pipeline)?

Response:

The same employee can work on both regulated and non-regulated affiliates subject to the provisions of the NGTL Code. For example, as specified in Section 3.3.4.1 of the Code, employees may be shared on a cost recovery basis provided that the employees to be shared are able to carry out their responsibilities in a manner that preserves the form, spirit and intent of the Code. In particular, an employee:

- (a) shall not be shared if it could reasonably be considered detrimental to the interests of NGTL's customers, and
- (b) if being shared, shall abstain from engaging in any activity that could reasonably be considered detrimental to the interests of NGTL's customers.

The Mackenzie Valley Pipeline is not an affiliate of NGTL.

CAPP-NGTL-042(g)

Issue:

Code of Conduct – Affiliate Definition

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 2.1 (b).

Request:

Are shared employees subject to any written requirement in respect of confidentiality as between the various businesses in which TransCanada has an interest? Please explain any such arrangements.

Response:

Shared employees will be subject to the written confidentiality provisions in the proposed NGTL Code.

CAPP-NGTL-042(h)

Issue:

Code of Conduct – Affiliate Definition

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix A – Code of Conduct, Section 2.1 (b).

Request:

How many of the functions related to the affairs of NGTL do not and would not involve contact with other businesses in which TransCanada has an interest? How many personnel, by number and percentage carry out such functions?

Response:

All functions related to the affairs of NGTL have contact with other businesses of TransCanada.

CAPP-NGTL-043(a)

Issue:

Code of Conduct – ATCO Code

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 5, Line 22.

Preamble:

NGTL states that it amended the ATCO Code to reflect NGTL’s specific business and operational circumstances and the nature of TCPL’s integrated organization.

Request:

Please confirm that the “nature of TCPL’s integrated organization” refers to TransCanada’s “one company” corporate structure. If this can not be confirmed, please explain.

Response:

Confirmed.

CAPP-NGTL-043(b)

Issue:

Code of Conduct – ATCO Code

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 5, Line 22.

Preamble:

NGTL states that it amended the ATCO Code to reflect NGTL’s specific business and operational circumstances and the nature of TCPL’s integrated organization.

Request:

Please explain what “NGTL’s specific business and operational circumstances” are.

Response:

NGTL is a wholly-owned subsidiary of TCPL.

TCPL is an integrated energy company with operations in two principal business segments: gas transmission and services, and power generation and marketing. The business operations of TCPL are performed in functional areas that provide integrated services to the various lines of business throughout the organization.

Under TCPL's functional structure, NGTL does not have independent employees. Rather, TCPL employees provide the services required to operate NGTL. The costs of providing these services are allocated to NGTL in accordance with the TransCanada Operating Cost Allocation Policy, as discussed in sub-section 2.3 of the Application.

Excluding field locations, most of TCPL's employees are physically located in its Calgary office.

Corporate organization charts for TCPL, its subsidiaries, and affiliates are provided in Appendix B to Section 9.0 of the Application. These charts show the corporate relationships between TCPL's wholly and partially-owned businesses.

CAPP-NGTL-044(a)

Issue:

Code of Conduct – ATCO Code

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 8, Line 1.

Preamble:

NGTL states that it amended the ATCO Code to require that only the commercial and business affairs of NGTL be managed and conducted separately from the affairs of Non-Regulated Affiliates.

Request:

Please explain what “commercial and business affairs” refers to.

Response:

Commercial and business affairs are those matters that are not administrative or operational in nature.

Commercial and business affairs include areas such as Customer Sales and Customer Service. Administrative and operational affairs include areas such as Accounting and Human Resources.

CAPP-NGTL-044(b)

Issue:

Code of Conduct – ATCO Code

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 8, Line 1.

Preamble:

NGTL states that it amended the ATCO Code to require that only the commercial and business affairs of NGTL be managed and conducted separately from the affairs of Non-Regulated Affiliates.

Request:

Does NGTL conduct any affairs other than “commercial and business” affairs? If so, please describe.

Response:

Yes. Please refer to the response to CAPP-NGTL-044(a).

CAPP-NGTL-045

Issue:

Code of Conduct – Purpose

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix C – Code of Conduct (Black-lined Copy), Section 1

Preamble:

CAPP would like to understand the reasons for changes made by NGTL to the ATCO Code to create the NGTL Code.

Request:

Why was the phrase “This Code attempts to anticipate and adjust for the potential misalignment of interests between shareholders and Utility customers occasioned by Affiliate interactions” not included in the NGTL Code?

Response:

NGTL believes this provision has no substantive effect on the scope or application of the Code.

CAPP-NGTL-046(a)

Issue:

Code of Conduct – Physical Separation

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Pages 9 – 10, and Appendix C – Code of Conduct (Black-lined Copy), Section 3

Preamble:

In its evidence, NGTL states that Section 3.3.4.1 includes provisions that would subject the sharing of employees to appropriate controls (page 9), and Section 3.3.4.2 prohibits against sharing certain employees with Non- Regulated Affiliates (page 10). However, unlike the ATCO Code, the NGTL Code does not include any provision for physical separation, either via a separate building or through the use of appropriate security-controlled access.

Request:

Please explain why physical separation “through the use of appropriate security controlled access” was not included in the NGTL Code as one of the appropriate controls to ensure adequate and effective separation between NGTL and its Non-Regulated Affiliates.

Response:

Physical separation was not considered a requirement to adhere to the intent of the Code. Physical separation is not economically practical given TransCanada's integrated structure.

CAPP-NGTL-046(b)

Issue:

Code of Conduct – Physical Separation

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Pages 9 – 10, and Appendix C – Code of Conduct (Black-lined Copy), Section 3

Preamble:

In its evidence, NGTL states that Section 3.3.4.1 includes provisions that would subject the sharing of employees to appropriate controls (page 9), and Section 3.3.4.2 prohibits against sharing certain employees with Non- Regulated Affiliates (page 10). However, unlike the ATCO Code, the NGTL Code does not include any provision for physical separation, either via a separate building or through the use of appropriate security-controlled access.

Request:

How is access within the TransCanada head office building controlled?

Response:

Access is controlled with electronic card keys.

CAPP-NGTL-046(c)

Issue:

Code of Conduct – Physical Separation

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Pages 9 – 10, and Appendix C – Code of Conduct (Black-lined Copy), Section 3

Preamble:

In its evidence, NGTL states that Section 3.3.4.1 includes provisions that would subject the sharing of employees to appropriate controls (page 9), and Section 3.3.4.2 prohibits against sharing certain employees with Non- Regulated Affiliates (page 10). However, unlike the ATCO Code, the NGTL Code does not include any provision for physical separation, either via a separate building or through the use of appropriate security-controlled access.

Request:

Can an officer or employee working on the affairs of a non-regulated affiliate enter a floor occupied by officers or employees working on the affairs of regulated affiliates or any regulated business of TransCanada? If so, explain.

Response:

TransCanada controls access of certain individuals within its office building with regard to security and commercial sensitivities of both regulated and non-regulated business. For example, certain employees of non-regulated business are not permitted access to the gas control function of the regulated pipeline. Similarly, certain regulated business representatives are not permitted access to locations where power trading occurs.

CAPP-NGTL-046(d)

Issue:

Code of Conduct – Physical Separation

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Pages 9 – 10, and Appendix C – Code of Conduct (Black-lined Copy), Section 3

Preamble:

In its evidence, NGTL states that Section 3.3.4.1 includes provisions that would subject the sharing of employees to appropriate controls (page 9), and Section 3.3.4.2 prohibits against sharing certain employees with Non- Regulated Affiliates (page 10). However, unlike the ATCO Code, the NGTL Code does not include any provision for physical separation, either via a separate building or through the use of appropriate security-controlled access.

Request:

Can an officer or employee working on the affairs of regulated affiliates enter a floor occupied by officers or employees working on the affairs of non-regulated affiliates or any non-regulated business by TransCanada? If so, explain.

Response:

Please refer to the response to CAPP-NGTL-046(c).

CAPP-NGTL-047

Issue:

Code of Conduct – Separation of Information Services

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 10, and Appendix C – Code of Conduct (Black-lined Copy), Section 3.2.2

Preamble:

NGTL states that it has internal provisions that govern data access and management protocols which are consistent with the Canadian Institute of Chartered Accountants Handbook. Nevertheless, NGTL deleted the reference in Section 3.2.2 concerning compliance with provisions in the Canadian Institute of Chartered Accountants Handbook.

Request:

- (a) Please explain why NGTL's Code should not include the requirement that its internal provisions that govern data access and management protocols should comply with provisions of the Canadian Institute of Chartered Accountants Handbook.
- (b) Please provide a copy of the corporate document that sets out NGTL's internal provisions that govern data access and management protocols.
- (c) Please provide a copy of the relevant sections of the Canadian Institute of Chartered Accountants Handbook that deals with provisions that govern data access and management protocols.
- (d) Please demonstrate how the provisions in (b) are consistent with those in (c).


Response:

- (a) TCPL has established an extensive control environment with respect to the management and protection of its information resources. As provided in response to (b) below, this control environment is governed by internal Business Practice

CAPP-NGTL-047

Statements, Policies and Procedures, and Security Standards, all of which are subject to periodic review and update as required to deal with changes in corporate policy, technology, applications, practices, and legal and regulatory imperatives. TCPL has looked to and will continue to look to other industry-accepted frameworks such as Infrastructure Technology Information Library (ITIL) and Control Objectives for Information and Related Technology (COBIT) for guidance in establishing its information resources control environment. As such, NGTL believes that the internal provisions which govern data access and management protocols are not only consistent with the guidelines set out by the CICA Handbook, but also with other industry-accepted standards.

- (b) Please refer to Attachment 1 CAPP-NGTL-047(b) and Attachment 2 CAPP-NGTL-047(b).
- (c) Please refer to Attachment 1 CAPP-NGTL-047(c), Attachment 2 CAPP-NGTL-047(c) and Attachment 3 CAPP-NGTL-047(c) which provide those sections of the CICA Handbook that NGTL believes are those referenced in ATCO's Code of Conduct.
- (d) The CICA Handbook provisions in this area are set out in the form of guidelines to practitioners. These guidelines are stated in general terms. By contrast, the internal provisions of TCPL in the areas of data management and data access are detailed and very specific to TCPL's IT infrastructure. As a result, a detailed comparison between the two sets of provisions would be very time consuming and impractical.

TransCanada Business Practice Statements		 TransCanada <i>In business to deliver</i>
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	


Title Information Management and Security		Scope Enterprise-wide	
Master Index Section (Master Section) Information, Technology and Information Security		Policy Area (Content Detail) Information Management, Security	
Accountable Department Business Information-02213		Document Owner Grant Cirka, Manager, Business Information	
Document Type Policy		Sensitivity Code Internal	Effective Date 2001/09/28
		Review Date 2002/09/30	
Impact of Risk	Probability of Risk	Classification Code CO01	Status Approved

	Revision Revision 0 dated Sept 28, 2001
Document Originator(s) Grant Cirka, Business Information, Shared Services Joan Halvorsen, IS Security, IS Operational Effectiveness Bruce Nysetvold, Legal Counsel, Corporate Secretarial	Signature _____ _____ _____
Document Reviewer(s) Ray Barham, Vice President, Human Resource Services Chuck Brophy, Audit Services Rhondda Grant, Corporate Secretary Roland Henderson, Director, Audit Services Garry Lamb, Vice President, Audit and Risk Management Alex Pochmursky, Vice President, Procurement and Shared Services Art Smith, Vice President, Information Systems	Signature _____ _____ _____ _____ _____ _____
Approval(s) for Issuance Ron Turner, Operations Committee Chairman and Executive Vice President, Engineering and Operations	Signature _____

PURPOSE AND SCOPE

Information is an asset which, like other important business assets, has value to the organization. TransCanada relies on the Availability, Integrity and Confidentiality of its Information Resources in the performance of its daily business operations and during retrieval of Company Information.

The purpose of this policy is to communicate TransCanada’s expectations with respect to the management and protection of its Information Resources.

TransCanada Business Practice Statements		
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

TransCanada’s expectations are that:

- Information Resources are appropriately protected, based on their Value and Sensitivity Classification, from unauthorized or inappropriate Access, use, destruction or disclosure whether accidental or intentional.
- Company Information is appropriately managed based on its Value Classification where as;
 - Company Records are created, organized, classified, and retained to meet legislative, regulatory and operational requirements.
 - Vital Records are created, organized, classified, and retained to mitigate business interruption and financial loss and to protect the Company's legal position.
- Personal Information is adequately and appropriately managed and protected to meet legislative, regulatory, and operational requirements.
- Information relevant to job function and performance is readily available, used as intended and protected from misuse.

This policy applies enterprise-wide to:

- All Personnel, defined as employees, contractors and agents of the Company.
- All Information acquired by, or developed by or for the Company in the course of doing business.
- Information stored in all offices, field locations, in commercial storage facilities, third party locations and personal devices.
- Information in (or on) any media, including but not limited to digital, optical, paper, micrographic, photographic, audio, and audio-visual.
- Information in all stages of its business life-cycle, including research, acquisition, creation, storage, usage, transmittal and disposal.
- Information at all sensitivity levels, including Public, Internal, and Restricted.
- All Information Resources.

INTERPRETIVE NOTE

All capitalized terms have the meanings set out in the DEFINITIONS section.

BRIEF DESCRIPTION OF CHANGE


This policy supercedes:

- The TransCanada Security of Information policy (1-040).
- All previous NOVA information management and security policies.
- The TransCanada Information Management policy (Infocus 2000).


This policy also addresses some implications of the *Personal Information Protection and Electronic Documents Act*.

POLICY STATEMENTS

1. All Information Resources developed by or for the Company are Company property.
2. All Information Resources must have an identified Information Resource Owner accountable for their management and security.
3. Use of Information Resources must comply with applicable laws, contractual agreements, regulatory requirements, and Company policies.

TransCanada Business Practice Statements		
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

4. Information Resources must be used only for Company-approved purposes in accordance with TransCanada's Code of Business Ethics and the Harassment-Free Workplace Policy. Uses of Information Resources that are illegal, or unauthorized use of Information Resources which are offensive to others, harmful to morale or not in the best interests of the company shall result in discipline, up to and including termination of the person(s) involved.
5. Unless prohibited by law (such as the *Personal Information Protection and Electronic Documents Act*), the Company reserves the right to interrupt, retrieve, Access, review, archive, destroy or disclose to others (including courts and law enforcement authorities) any Information Resource regardless of whether that Information Resource is created, stored, or transmitted on Company, personal or third party devices.
6. The Information lifecycle (from creation to final disposition), including its status as a Vital Record, must be determined by the Information Resource Owner referring to and complying with regulatory, statutory, tax, audit, security, industry, contractual agreements, Company policies and operational requirements and specifically including:
 - *Personal Information Protection and Electronic Documents Act*.
 - The Corporate Records Classification System and Retention Schedule.
7. At each transition point in their lifecycle (i.e. creation, inclusion into a business process, archiving, etc) Information Resources must be classified by their Owner according to the Sensitivity Classification, Value Classification and Corporate Records Classification. The default Sensitivity Classification is Restricted since documents tend to be created locally and are therefore Restricted until a decision is made to share the document with others. Restricted Information may not be Accessed unless the Information Resource Owner first gives authorization.
8. All out-of-date Information must be clearly identified or Access removed by the Information Resource Owner.
9. The collection, use, disclosure and disposition of Personal Information must comply with *the Personal Information Protection and Electronic Documents Act*.
10. Personnel may view their own Personal Information with the exception of Company Information relating to personnel matters (including but not limited to plans, decision proposals or business discussions related to: Personnel's salary or rate adjustments, compensation changes, contract changes, organization changes, promotions, succession plans, staffing, transfers, investigations, etc.). Personnel will be given the opportunity to provide the Company corrective information to correct or amend inaccurate Records or to place in the Record their disagreement with the accuracy of Records concerning their Personal Information.
11. Specific, reasonable, prudent, and measurable enterprise-wide standards must be established and applied to implement this policy on all technologies within the Company, and for the creation, classification, storage, use, transportation, maintenance, and retrieval of all Information Resources. Personnel are required to follow the management and security controls and practices implemented by the Information Resource Owner (as detailed in the Responsibilities / Accountabilities section). Personnel are not authorized to attempt to circumvent or test controls unless this is part of their normal job function (e.g. Audit, System Testing).
12. Appropriate formal controls must be used to uniquely identify, authenticate, and authorize users to any Internal or Restricted Information Resources.

TransCanada Business Practice Statements		
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

13. All Information Resource technologies (hardware, software, and configurations) supported by TransCanada Information Systems must adhere to TransCanada’s IT Architecture Standards, and must be installed by TransCanada Information Systems Personnel.
14. Due to the possibility of a disaster or other business disruption, Information Resource Owners must have a documented and up-to-date business resumption plan to recover their Vital Records and Mission Critical Information Resources.
15. Sufficient and practicable controls must be in place to deter and detect unauthorized Access attempts and unauthorized activity on Information Resources. Information Resources must be subject to sufficient monitoring and logging to reconstruct activities and identify individuals who performed the activity. Processes must be in place to respond to unauthorized activity and Access attempts.
16. Information management and security roles and responsibilities will be detailed in related job descriptions and necessary training and education will be provided.
17. Reporting. All matters related to the application of this policy must be reported in a timely manner, according to the following guidelines:
 - Incidents, concerns, or questions relating to ethical behavior and the administration of the Code of Business Ethics must be reported to Audit Services.
 - Incidents, concerns, or questions relating to the security of Information Resources must be reported to Corporate Security or IT Security.
 - Incidents, concerns, or questions relating to Personal Information about Company Personnel must be reported to Human Resources, and must be resolved by Human Resources.
 - Incidents, concerns, or questions relating to Personal Information about other Company stakeholders must be reported to Legal Counsel, Corporate Secretarial.
 - Information issues or concerns related to the Information’s content should be directed to the Information Resource Owner.
 - All other Information management incidents, issues, concerns or questions must be reported to Business Information.


AWARENESS LEVEL

All Personnel:

All Personnel, upon initial engagement with TransCanada, must read this policy to become familiar with its intent and understand their responsibilities.

Management:

In addition to the above, all levels of management must read this policy to become familiar with its intent, to understand their accountabilities regarding Information management and security, and to determine its application to their direct reports.

TransCanada Business Practice Statements		
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

RISKS MITIGATED

Information management and security are achieved by implementing a suitable set of controls, and includes policies, programs, procedures, standards, organizational structures, hardware and software functions. TransCanada will mitigate the risks of:

- Unauthorized or inappropriate Access, use, destruction or disclosure of information.
- Inconsistent, inaccurate or unclear communication of corporate expectations.
- Loss of Employee productivity.
- Ineffective decisions.
- Damage to Company reputation and public image.
- Penalties, fines and/or cost of hearings resulting from failure to comply with applicable laws and regulations.
- Operational disruption and/or inability to service customers in a timely fashion.

The potential consequences to TransCanada are critical and due to the high likelihood of occurrence, the overall risk is high.

COMPLIANCE / EXCEPTIONS

Employees are expected to comply with all aspects of Business Practice Statements and to support others in doing so.

Matters of clarification and interpretation regarding Business Practice Statements should be referred to the Document Owner. Refer to the 'Business Practice Statements (BPS) Home Page' for further guidance on compliance and exceptions.

All exceptions must be documented in writing (including the timing and form of notification), reported to the document owner, and reported to the appropriate groups as outlined in policy statement #17.


Uncontrolled if Printed:

The approved version of this Business Practice Statement is electronically stored in the FileNET electronic document management system (EDMS). The reference to "Uncontrolled if Printed" reflects the need to ensure that the effective date of any printed version is the same as the electronic version stored on the 'Business Practice Statements Home Page'.

RESPONSIBILITIES / ACCOUNTABILITIES

Company Executives and Officers

- a) All executives and officers of the Company are accountable to ensure implementation of and adherence to this policy.
- b) All executives are accountable to ensure each Information Resource within their functional area is identified and an Information Resource Owner is assigned for each Information Resource.
- c) Vice presidents shall have accountability for final Information disposition authorization.
- d) All executives and officers of the Company must properly execute confidentiality and non-competition agreements in a form acceptable to TransCanada's Legal Services.

TransCanada Business Practice Statements		
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

Supervisory Personnel

Supervisory Personnel are accountable for the performance, productivity and training of the Personnel in their functional area.

Specifically, Supervisory Personnel are expected to take all reasonable steps to:


- a) Ensure Personnel’s awareness of this policy and supporting policies, procedures, standards, and guidelines, and periodically review for compliance.
- b) Ensure resources are in place to manage Information Resources in accordance with this Policy.
- c) Ensure that Personnel are authorized to Access the Information Resources required to perform their jobs, in a manner appropriate to the Information's Sensitivity Classification.
- d) Ensure recovery of all Company Information before the departure of terminated Personnel.
- e) Ensure prompt cancellation of Access privileges when a user is no longer authorized to Access specific Information Resources (e.g. upon termination of employment, department change, role change, etc.).

Information Resource Owners

The assigned supervisory, management or executive Personnel are the Information Resource Owners for all Company Information Resources within their functional areas, and have the primary accountability for the Confidentiality, Integrity, Availability and use of Company Information. The VP of Information Systems is the Information Resource Owner of the IT Infrastructure.

Specifically, Information Resource Owners are expected to take all reasonable steps to:

- a) Assign custody of Information Resources as appropriate and ensure Information Resource Custodians have the required resources and tools.
- b) Ensure that Information Resources are classified as to their sensitivity and value, and labeled (or otherwise designated) accordingly.
- c) Conduct periodic risk assessments to ensure appropriate Sensitivity Classification and protection of Information Resources.
- d) Develop and maintain a departmental document and Records master list, which includes defined ownership, Sensitivity Classification, Value Classification and Corporate Records Classification of each type of department document.
- e) Ensure all Information is stored in a manner that provides protection for its life cycle as specified by the Corporate Records Classification System and Retention Schedule. Final disposition must be authorized by the Information Resource Owners’ Vice President.
- f) Ensure that the Company ability to Access all Information is maintained to ensure Availability of the Information for legal, audit, statutory, or regulatory purposes.
- g) Protect the privacy of Personal Information. All Personal Information must be stored in secure facilities, with Access restricted to authorized Personnel.
- h) Communicate and cooperate with Business Information to create, implement, and periodically review adherence to corporate Records and document management policies, procedures and standards.
- i) Work with their FST, IT Security, and Business Information to ensure that any external services used are fully capable of integrating with the ongoing security requirements of the Company, adequately

TransCanada Business Practice Statements		 TransCanada <i>In business to deliver</i>
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

address concerns for data Confidentiality, Integrity and Availability, and meet retention requirements based on the Corporate Records Retention Schedule.

- j) Work with their FST, IT Security, and Business Information to ensure that the appropriate level of security controls are incorporated into the development, implementation and operation of Information systems, in a manner which maintains the Confidentiality, Integrity, and Availability of the Information.
- k) Ensure that physical Access to Information Resources is controlled to protect against potential theft or destruction, or the disruption of services through accidental or deliberate damage.
- l) Identify, in conjunction with Business Information, the Vital Records under their ownership and the appropriate strategies to ensure appropriate Availability of that Information. Develop, document and test plans and procedures to ensure that Vital Records can be recovered in a reasonable period of time from any loss, damage, or severe interruption, and that the Company is able to conduct business using that Information during any period of interruption to normal service.
- m) Conduct periodic reviews to ensure that Information Resources are not being abused, misconfigured, or misused.

All Personnel


All Personnel are responsible for the Confidentiality, Integrity, and Availability and use of Company Information and are accountable to the Information Resource Owners for the creation, use, management and control of Information.

All Personnel are entitled to have effective and timely Access to all Information Resources they require to effectively perform their functions. All Personnel share the responsibility to ensure barriers to effective and appropriate Information Availability are avoided.

All Personnel have the responsibility to report Information management, security or content issues and concerns to the appropriate groups as outlined in policy statement #17.

Specifically, Personnel are expected to take all reasonable steps to:

- a) Familiarize themselves with, and abide by the intent of, this policy and related programs, standards, procedures, guidelines and security controls.
- b) Use Information Resources solely for the benefit of the Company, unless otherwise authorized by their manager and the appropriate Information Resource Owner.
- c) Not use Information Resources for personal gain (see Code of Business Ethics).
- d) Use the controls and practices specified by the Information Resource Owner and Custodian(s) to ensure that Information is properly classified and security controls are applied commensurate with the Sensitivity Classification.
- e) Ensure that Company Records are managed by the business area Records Administrator including the off-siting of inactive Records.
- f) Ensure that Information is transmitted in a secure manner (e.g. encrypted, appropriate levels of postal mail, etc.), commensurate with its Sensitivity Classification, regardless of the media used. Personnel must exercise appropriate caution in discussing all sensitive matters on the telephone (particularly cell phones), in public places, via e-mail, or when transmitting material by fax.

TransCanada Business Practice Statements		
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

- g) Ensure that portable media containing Restricted or other valuable Information are secured in a lockable facility when left unattended. Examples of portable media are paper, disks, tapes, laptops, and hand-held devices.
- h) Ensure that non-portable items (e.g. file cabinets, workstations, servers) containing Restricted or other valuable Information Resources are secured when left unattended.
- i) Ensure that Internal and Restricted Information stored on laptops and hand-held computers is appropriately secured to reduce the likelihood of disclosure to, or use by, unauthorized persons.
- j) Turn over all Information Resources entrusted in their care to their manager upon termination of their employment or contract with the Company.

Information Resource Custodians

Information Resource Custodians are those Personnel designated by Information Resource Owners to provide facilities, administer Access and protective measures, and ensure that entrusted Information Resources meet the requirements determined by the Information Resource Owner (e.g. system administrators, FSTs, administrative assistants).

Specifically, Information Custodians are expected to take all reasonable steps to:

- a) Ensure that people or systems attempting to Access Information Resources are uniquely identified, authenticated, and authorized in a manner commensurate with the Sensitivity Classification of the Information Resource.
- b) Monitor activity logs and audit trails and take appropriate action on any suspicious or unauthorized activities.

Records Administrators


Records Administrators are those Personnel responsible to ensure that a department's Company Records are managed following defined Business Information standards.

Specifically, Records Administrators are expected to take all reasonable steps to:

- a) Ensure all departmental Company Records, regardless of media, are managed from creation to inactivity and are classified using the Corporate Classification System.
- b) Provide departmental training of Information management and security concepts and procedures to Personnel.
- c) Liaise with Business Information and provide input and feedback to the Information management programs, procedures, standards, guidelines and tools.
- d) Prepare inactive Records for off-site storage, requisition inactive Records from off-site storage, and return requested inactive Records to off-site storage. Ensure box indexes match box contents prior to sending off-site.

Business Information

Business Information is the functional department responsible for the development and maintenance of the Company's Information Management Infrastructure, which includes policies, programs, procedures, standards, guidelines, tools and training.

TransCanada Business Practice Statements		
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

Specifically, Business Information is expected to take all reasonable steps to:


- a) Develop and maintain the corporate Information management policies, procedures, and standards.
- b) Manage the Corporate Records Classification System and Retention Schedules and provide a forum to capture input and feedback.
- c) Develop a corporate Vital Records protection plan and business information continuity plan.
- d) Manage the final disposition of Records that have met their retention requirements. Destruction must be accomplished in a manner commensurate with the asset's security classification, and in adherence to the Corporate Records Retention Schedule. For Internal or Restricted Information stored on electronic media, the IS department should be consulted to ensure the Information is rendered irretrievable.
- e) Train Records Administrators on Information management policies, programs, procedures and standards.
- f) Coordinate off-site box management and ensure adherence to appropriate security requirements.
- g) Track and resolve issues, concerns and incidents relating to corporate Records and document management.
- h) Own, manage, configure the document and Records management tools and develop corporate standards.
- i) Design the audit system to ensure compliance to the Information management policies, procedures and standards.

Information Systems

- a) The Vice President of Information Systems is accountable to ensure that technology policies, guidelines, tools, and processes exist to enable the protection of TransCanada's electronic Information Resources.
- b) IT Security is responsible for development of the IT security strategy, practices, and guidelines in support of this and other Company policies.
- c) IT Security will provide IT risk assessment and consultation services to support the Information Resource Owner, the Information Resource Custodian and the Personnel in the performance of their security of Information responsibilities.
- d) IT Security will track and resolve issues, concerns and incidents relating to security of electronic Information Resources.

Human Resources

- a) The Executive Vice President of Human Resources and Public Sector Relations has accountability for the management and administration of Personal Information concerning Personnel.
- b) Human Resources is responsible for tracking and resolving issues, concerns and incidents relating to Personal Information about Personnel.

TransCanada Business Practice Statements		 TransCanada <i>In business to deliver</i>
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

Law and Administration

- a) The Executive Vice President, Law and Administration has accountability for management and administration of Personal Information about Company stakeholders other than Personnel.
- b) Legal Counsel, Corporate Secretarial is responsible for tracking and resolving issues, concerns and incidents relating to Personal Information about Company stakeholders other than Personnel.

Audit Services

- a) Audit Services is responsible to review this policy on a periodic basis and to review adherence to this policy in the course of its audit programs.
- b) Audit Services is responsible for tracking and resolving issues, concerns and incidents relating to ethical behavior and the administration of the Code of Business Ethics.

DEFINITIONS

Access

The ability to retrieve, receive, view, modify, delete, destroy, or recover an Information Resource or data about an Information Resource.

Availability

Availability refers to the accessibility of a resource, or the continuity of a service, when it is needed. Availability is especially important where prolonged absence of a resource or service is detrimental to the Company.

Business Information

Business Information is the functional department responsible for the development and maintenance of the Company's Information Management Infrastructure, which includes policies, programs, procedures, standards, guidelines, tools and training.

Company

The Company refers to TransCanada PipeLines Limited and its wholly owned subsidiaries.

Confidentiality

Confidentiality relates to the need to limit disclosure of Information. Confidentiality typically relates to preserving secrecy concerning the existence or content of an asset, to protect a competitive advantage, avoid corporate embarrassment, or prevent loss.

Corporate Records Classification System


The classification system designed to functionally organize Company Records and to effectively apply the Corporate Records Retention Schedule.

Corporate Records Retention Schedule

A schedule of the required retention durations for Records within each component of the Corporate Records Classification System. The retention durations comply with associated legislative and regulatory requirements and meet departmental operational requirements.

FST

An FST (Functional Systems Team) is a team of Information Systems Personnel dedicated to a specific business department for the provision of business-specific technology solutions.

TransCanada Business Practice Statements		
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

Information

Information is defined as knowledge, facts or data from any source, in any format or medium (including printed, verbal or recorded) pertaining to the Company, or for which the Company has responsibility.

Information Custodians

Information Custodians are those Personnel who have been assigned specific responsibilities for Information Resources by Information Resource Owners. The Information Custodian is responsible for providing facilities and administering protective measures.

Information Management Infrastructure

The Company’s documented system to manage Information, regardless of media, which includes policies, procedures, practices, standards, guidelines, technology and training.

Information Resources

Information Resources include Company-related Information, computer data and programs, e-mail, voice and data communication systems, voice mail, computers and related systems, hand-held devices, cell phones, and company and external Information storage facilities (including media such as paper, tapes, portable disks, optical disks, and hard disks).

Information Resource Owners

Information Resource Owners are the assigned supervisory, management or executive Personnel that have the primary accountability for the Confidentiality, Integrity, Availability and use of the Information Resources within their functional areas.

Information Systems Department (IS)

The Information Systems department is responsible for the provision of TransCanada’s computer and telecommunications infrastructure and business applications.

Integrity

Integrity ensures that Information which is placed in a storage or transport process or medium retains its original value or meaning, and that any changes to that value or meaning are appropriate, authorized and auditable. Integrity typically relates to the protection of Information Resources against unauthorized alteration, to prevent fraudulent use or activity.

Internal (Sensitivity Classification)

See Appendix A.

Internal Information is Information that is available to Personnel, intended for internal use only, but where accidental or deliberate disclosure or use of the Information outside the company would NOT be deemed “selective disclosure” under securities regulations, potentially damaging or embarrassing. Examples include such things as non-confidential employee, departmental, and corporate updates.

IS


See Information Systems Department

IT (Information Technology)

IT refers to technology (hardware and software) related to computers and telecommunications.

IT Architecture Standards

IT architecture standards are an agreed-to set of specific IT products, services, processes, approaches, and/or tools to be used in specific contexts.

TransCanada Business Practice Statements		
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

IT Infrastructure

IT Infrastructure refers to TransCanada’s electronic hardware, software, and telecommunications framework. It includes such things as servers, PCs, printers, standard software and configurations, data and voice networks, firewalls, and backup/archive/recovery tools. It also refers to the administration of these items, and access mechanisms. It does NOT include user-created files or data. The IS Department is responsible for the design, implementation, and operation of the IT Infrastructure. Business-specific hardware/software and hardware/software implemented by departments other than IS are not considered to be part of the IT Infrastructure.

Mission Critical Information Resources

IT applications identified by the business units as required to complete required legal obligations or core business functions, where failure would affect many people, either inside or outside the company, potential liability is a possible, or failure would require significant effort to “work around” the problems.

Non-Record

See Appendix A.

Non-Records are documents of temporary value to the Company including working papers, preliminary drafts, similar documents summarized and published in other forms, and copies of Records kept for reference only.

Personal Information

Personal Information is Information about an identifiable individual, but does not include the name, title or business address or telephone number of an employee of an organization.

Personnel

For the purposes of this policy, the term Personnel refers to employees, contractors and agents of the Company. Personnel have the day-to-day responsibility for the Confidentiality, Integrity, and Availability of Information Resources.

Public (Sensitivity Classification)

See Appendix A.


Public Information is Information that the Company wants to make available to the public domain. Examples include such things as published financial results and press releases, and the content of TransCanada’s external web site.

Record

See Appendix A.

Records are recorded Information, regardless of media or location, created or received by the Company and are:

- fixed at a point in time
- providing evidence of:
 - the Company including incorporation documents
 - policies, procedures, or work instructions
 - operations including any document signed, delivered and/or presented to external parties with the corporate logo
 - decisions
 - business transactions including all signed contract documents without exception
- providing supporting information or historical reference to the development of a Company Record including decision support

TransCanada Business Practice Statements		
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

- information required for statutory legal or regulatory compliance
- information required for operational reference

Records Administrators

Records Administrators are those Personnel responsible to ensure that a department's Company Records are managed following defined Business Information standards.

Restricted (Sensitivity Classification)

See Appendix A.

Restricted Information is Information that must be protected such that only a limited set of people (which may include select third parties) can have Access to it.

Sensitivity Classification

See Appendix A.

The classification of an Information Resource to define the confidentiality requirements.

Value Classification

See Appendix A.

The classification of document as either a Vital Record, Record or Non-Record.


Vital Record

See Appendix A.

Vital Records are Records essential to the resumption of business in the event of a disaster. These Records contain Information regarding the financial and legal status and functional obligations of the business. The loss of this Information would subject the Company to an unacceptable level of risk.

REFERENCES AND LINKS

- Code of Business Ethics
- Harassment-Free Workplace Policy
- Corporate Records Classification System and Retention Schedule
- Guidelines for Safe Computing
- IT Security practices and standards
- Business Information policies, programs, procedures and standards

TransCanada Business Practice Statements		
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

APPENDIX A – Information Resource Classifications

Sensitivity Classifications


Information Resources can be classified as Public, Internal, or Restricted. The Information Resource Owner is accountable to determine the appropriate sensitivity classification for each of the Information Resources within his/her functional area.

- Public Information is Information that the Company wants to make available to the public domain. Examples include such things as published financial results and press releases, and the content of TransCanada’s external web site.
- Internal Information is Information that is available to Personnel, intended for internal use only, but where accidental or deliberate disclosure or use of the Information outside the company would NOT be deemed “selective disclosure” under securities regulations, potentially damaging or embarrassing. Examples include such things as non-confidential employee, departmental, and corporate updates.
- Restricted Information is Information that must be protected such that only a limited set of people (which may include select third parties) can have Access to it. It is up to the Information Resource Owner to determine whether or not Access should be restricted, and if so, to whom. Restricted Information provided to non-employees must be adequately protected by contractual terms. The following types of Information must be classified as Restricted:
 - Personal Information related to employees, shareholders, customers, agents, distributors, suppliers, business partners and other parties
 - Information whose disclosure or use outside the Company would be deemed potentially damaging or embarrassing. Examples include news releases prior to planned release, regulated operational data, or strategic technical Information.
 - Information Resources which, because of necessity to a business process, sensitivity, or proprietary nature, must be restricted to use only by those (employees or third parties) who require them to perform their duties or who, because of their position, should be advised. Some examples are bid specifications, Personnel data, payroll data, servers, telecommunications and network equipment.
 - Any Information which could affect the Company’s stock price.


Value Classifications

Information can be classified as a Vital Record, Record, or Non-Record.

- Vital Records are Records essential to the resumption of business in the event of a disaster. These Records contain Information regarding the financial and legal status and functional obligations of the business. The loss of this Information would subject the Company to an unacceptable level of risk.


TransCanada Business Practice Statements		 TransCanada <i>In business to deliver</i>
Title: Information Management and Security		
Document Type: Policy		
Effective Date: 2001/09/28	UNCONTROLLED IF PRINTED	

- Records are recorded Information, regardless of media or location, created or received by the Company and are:
 - fixed at a point in time
 - providing evidence of:
 - the Company including incorporation documents
 - policies, procedures, or work instructions
 - operations including any document signed, delivered and/or presented to external parties with the corporate logo
 - decisions
 - business transactions including all signed contract documents without exception
 - providing supporting information or historical reference to the development of a Company Record including decision support
 - information required for statutory legal or regulatory compliance
 - information required for operational reference
- Non-Records are documents of temporary value to the Company including working papers, preliminary drafts, similar documents summarized and published in other forms, and copies of Records kept for reference only.

TransCanada Policy		
Title: Security Policy for Remote Access to Information Resources		
Document Type: Policy		
Effective Date:	UNCONTROLLED IF PRINTED	

Title Security Policy for Remote Access to TransCanada Information Resources		Scope Department Specific	
Master Index Section (Content Name) Information, Technology & Information Security		Policy Area (Content Detail) Information Security	
Accountable Department TC IT Security		Document Owner Joan Halvorsen, TC IT Security	
Document Type Policy		Sensitivity Code	Effective Date
Impact of Risk Serious	Probability of Risk Frequent	Classification Code Moderate	Status Final

	Revision
Document Originator(s) Pat Comer, IT Security	
Document Reviewer(s) Joan Halvorsen, TC IT Security Kris Surette, TC IT Security Ian MacKay, Director, Telecom and Enterprise Commodity Service Provide Ardvark Council	Signature _____ _____ _____ _____
Approval(s) for Issuance TC Information System Leadership Team Art Smith, VP IS Jim Brignall, Director, Operational Effectiveness Brian Luterbach, Director, Commercial & Business Systems Architecture Council	Signature _____ _____ _____ _____

TransCanada Policy		
Title: Security Policy for Remote Access to TransCanada Information Resources		
Document Type: Policy		
Effective Date:	UNCONTROLLED IF PRINTED	

Purpose:

The purpose of this document is to outline the IT Security policy around external access to TransCanada Information Resources. This policy is built upon the Corporate Information Management and Security Policy, and supports the TransCanada Code of Business Ethics. This policy provides the basis for Security Standards for Remote Access (separate document).

This document outlines the expectations for the use of remote access while ensuring the confidentiality, integrity and availability of corporate Information Resources.

Scope:

This Policy covers any type of remote electronic access to and from TransCanada Information Resources (see Definitions section).

This policy applies to all TransCanada personnel, and to authorized external users, such as customers and service providers.

Brief Description of Change (If a Revision):

This is a new policy document.


Rationale and Background:

Remote access services are made available to support employees in performing their job responsibilities from off-site locations. In addition, TransCanada provides remote access capability to authorized external users such as service providers, customers, regulatory bodies and business partners.

Risks inherent in remote access include software viruses, software copyright infringement and potential exposure (loss of confidentiality and/or integrity) during transport and storage of data or programs. Remote access users must protect corporate Information Resources at all times during transmission, use and storage.

Remote Access Policy Statements:

1. Remote access must take place via TransCanada standard approved facilities and technology. Any exceptions require approval from the appropriate authority.
2. Remote access is a service provided by TransCanada and shall be used for business purposes only.
3. All such remote activity shall comply with the Code of Business Ethics (COBE) and Information Management and Security policy.
4. In accordance with the Information Management and Security policy, all activity and information on the TransCanada infrastructure is subject to monitoring and logging.
5. All TransCanada Information Resources must be appropriately protected during use, transmission and storage. Levels of protection are dependent upon the Value and Sensitivity Classification as outlined in the Information Management and Security policy. Restricted and Internal Information Resources should not be stored on non-TransCanada owned computers or laptops, unless encrypted or password protected.
6. Definition of standards for remote access facilities and technology is the responsibility of the Information Systems group. Business groups must obtain approval from Information Systems for any new facilities or technologies.

TransCanada Policy		
Title: Security Policy for Remote Access to TransCanada Information Resources		
Document Type: Policy		
Effective Date:	UNCONTROLLED IF PRINTED	

7. Business managers are responsible for documenting the business need, understanding associated risks and providing business approvals for all remote access, including dial-up lines, remote access accounts (e.g. RAS, VPN), and telecommuting arrangements.
8. User remote access should be limited to the minimum access required to fulfill the business function.
9. Business managers are responsible for their personnel’s compliance with the TransCanada Code of Business Ethics and the Information Management and Security policy, and their adherence to IT standards, with respect to their use of remote access services.

Definitions:

Unless noted, definitions are taken from Appendix C of the Information Management and Security policy.

Information Resources

Information Resources include Company-related Information, computer data and programs, e-mail, voice and data communication systems, voice mail, computers and related systems, hand-held devices, cell phones, and company and external Information storage facilities (including media such as paper, tapes, portable disks, optical disks, and hard disks).

Personnel

For the purposes of this policy, the term Personnel refers to employees, contractors and agents of the Company. Personnel have the day-to-day responsibility for the Confidentiality, Integrity, and Availability of Information Resources.

Remote Access (not included in Appendix C of the Information Management and Security policy)

Refers to the ability to use external communications technology to interact with a designated network or system. This ability is commonly employed in corporations to permit users to log onto a network from a distant location, or to access external systems from within the internal network. Generally, this implies a computer, an external communication line, a modem or other communications hardware, and software to connect to the network.

Sensitivity Classification

The classification of an Information Resource to define the confidentiality requirements. Classifications can be Public, Internal, or Restricted.

Internal (Sensitivity Classification)

Internal Information is Information that is available to Personnel, intended for internal use only, but where accidental or deliberate disclosure or use of the Information outside the company would NOT be deemed “selective disclosure” under securities regulations, potentially damaging or embarrassing. Examples include such things as non-confidential employee, departmental, and corporate updates.

Public (Sensitivity Classification)


Public Information is Information that the Company wants to make available to the public domain. Examples include such things as published financial results and press releases, and the content of TransCanada’s external web site.

Restricted (Sensitivity Classification)

Restricted Information is Information that must be protected such that only a limited set of people (which may include select third parties) can have Access to it.

Value Classification

The classification of a document as either a Vital Record, Record or Non-Record.

TransCanada Policy		
Title: Security Policy for Remote Access to TransCanada Information Resources		
Document Type: Policy		
Effective Date:	UNCONTROLLED IF PRINTED	

Responsibilities:

This Policy was developed by the IT Security team. It was reviewed and accepted by the IT Architecture Council and by the Information Systems Leadership Team.

Related Material:

Security Standards for Remote Access to Information Resources, available from the IT Architecture Repository, outlines the security standards related to this policy document.

Two corporate policies underlie this Remote Access Security Policy. These are available from the Corporate Business Practice Statements website (link on the Architecture Repository website).

1. The corporate **Information Management and Security Policy** pertains to remote access in the following areas:
 - Protection of data.
 - Identification and responsibilities of the Information Owner, who is responsible for approving access to information.
 - Restriction of access to Information Resources is dependent upon Classification of the resource.
2. The corporate **Code of Business Ethics** outlines the expected behaviour of all Personnel. These business ethics must be observed in all use of TransCanada Information Resources.

assurance and related services guideline
 AuG-35
 risk assessments and internal control — CIS
 characteristics and considerations

This Guideline is to be read in conjunction with the [Introduction to Assurance and Related Services Guidelines](#) contained in the CICA Handbook – Assurance.

External References

This Guideline is derived from International Auditing Practice Statement (IAPS) 1008, issued by the International Auditing and Assurance Standards Board (IAASB) ¹ of the International Federation of Accountants (IFAC), entitled "Risk Assessments and Internal Control — CIS Characteristics and Considerations." Changes to IAPS 1008 have been limited to minor editorial changes and to:

- substitution of other Handbook references for those to other ISAs; and
- certain terminology changes to conform with Handbook usage.

March 2003

TABLE OF CONTENTS	Paragraph
Introduction	1
Organizational structure	2
Nature of processing	3
Design and procedural aspects	4
Internal controls in a CIS environment	5
General CIS controls	6
CIS application controls	8
Review of general CIS controls	9
Review of CIS application controls	10
Evaluation	11

INTRODUCTION

- 1 A computer information systems (CIS) environment is defined in ASSURANCE AND RELATED SERVICES GUIDELINE [AuG-33](#), Auditing in an EDP Environment, as follows:

An EDP environment exists when a computer of any type or size is involved in the processing by the entity of financial information of significance to the audit, whether that computer is operated by the entity or by a third party.

The introduction of all desired CIS controls may not be practicable when the size of the business is small or when microcomputers are used irrespective of the size of the business. Also, where data is processed by a third party, the consideration of the CIS environment characteristics may vary depending on the degree of access to third party processing. A series of

Assurance and Related Services Guidelines has been developed to supplement the following paragraphs. This series describes various CIS environments and their effect on the accounting and internal control systems and on auditing procedures.

ORGANIZATIONAL STRUCTURE

- 2 In a CIS environment, an entity will establish an organizational structure and procedures to manage the CIS activities. Characteristics of a CIS organizational structure include:
 - (a) Concentration of functions and knowledge — although most systems employing CIS methods will include certain manual operations, generally the number of persons involved in the processing of financial information is significantly reduced. Furthermore, certain data processing personnel may be the only ones with a detailed knowledge of the interrelationship between the source of data, how it is processed and the distribution and use of the output. It is also likely that they are aware of any internal control weaknesses and, therefore, may be in a position to alter programs or data while stored or during processing. Moreover, many conventional controls based on adequate segregation of incompatible functions may not exist or, in the absence of access and other controls, may be less effective.
 - (b) Concentration of programs and data — transaction and master-file data are often concentrated, usually in machine-readable form, either in one computer installation located centrally or in a number of installations distributed throughout an entity. Computer programs that provide the ability to obtain access to and alter such data are likely to be stored at the same location as the data. Therefore, in the absence of appropriate controls, there is an increased potential for unauthorized access to, and alteration of, programs and data.

NATURE OF PROCESSING

- 3 The use of computers may result in the design of systems that provide less visible evidence than those using manual procedures. In addition, these systems may be accessible by a larger number of persons. System characteristics that may result from the nature of CIS processing include:
 - (a) Absence of input documents — data may be entered directly into the computer system without supporting documents. In some online transaction systems, written evidence of individual data entry authorization (e.g., approval for order entry) may be replaced by other procedures, such as authorization controls contained in computer programs (e.g., credit limit approval).
 - (b) Lack of visible transaction trail — certain data may be maintained on computer files only. In a manual system, it is normally possible to follow a transaction through the system by examining source documents, books of account, records, files and reports. In a CIS environment, however, the transaction trail may be partly in machine-readable form, and furthermore it may exist only for a limited period of time.
 - (c) Lack of visible output — certain transactions or results of processing may not be printed. In a manual system, and in some CIS, it is normally possible to examine visually the results of processing. In other CIS, the results of processing may not be printed, or only summary data may be printed. Thus, the lack of visible output may result in the need to access data retained on files readable only by the computer.
 - (d) Ease of access to data and computer programs — data and computer programs may be accessed and altered at the computer or through the use of computer equipment at remote locations. Therefore, in the

absence of appropriate controls, there is an increased potential for unauthorized access to, and alteration of, data and programs by persons inside or outside the entity.

DESIGN AND PROCEDURAL ASPECTS

- 4 The development of CIS will generally result in design and procedural characteristics that are different from those found in manual systems. These different design and procedural aspects of CIS include:
- (a) Consistency of performance — CIS perform functions exactly as programmed and are potentially more reliable than manual systems, provided that all transaction types and conditions that could occur are anticipated and incorporated into the system. On the other hand, a computer program that is not correctly programmed and tested may consistently process transactions or other data erroneously.
 - (b) Programmed control procedures — the nature of computer processing allows the design of internal control procedures in computer programs. These procedures can be designed to provide controls with limited visibility (e.g., protection of data against unauthorized access may be provided by passwords). Other procedures can be designed for use with manual intervention, such as review of reports printed for exception and error reporting, and reasonableness and limit checks of data.
 - (c) Single transaction update of multiple or database computer files — a single input to the accounting system may automatically update all records associated with the transaction (e.g., shipment-of-goods documents may update the sales and customers' accounts receivable files as well as the inventory file). Thus, an erroneous entry in such a system may create errors in various financial accounts.
 - (d) Systems-generated transactions — certain transactions may be initiated by the CIS itself without the need for an input document. The authorization of such transactions may not be evidenced by visible input documentation nor documented in the same way as transactions that are initiated outside the CIS (e.g., interest may be calculated and charged automatically to customers' account balances on the basis of pre-authorized terms contained in a computer program).
 - (e) Vulnerability of data and program storage media — large volumes of data and the computer programs used to process such data may be stored on portable or fixed storage media, such as magnetic disks and tapes. These media are vulnerable to theft, loss, or intentional or accidental destruction.

INTERNAL CONTROLS IN A CIS ENVIRONMENT

- 5 The internal controls over computer processing, which help to achieve the overall objectives of internal control, include both manual procedures and procedures designed into computer programs. Such manual and computer control procedures comprise the overall controls affecting the CIS environment (general CIS controls) and the specific controls over the accounting applications (CIS application controls).

GENERAL CIS CONTROLS

- 6 The purpose of general CIS controls is to establish a framework of overall control over the CIS activities and to provide a reasonable level of assurance that the overall objectives of internal control are achieved. General CIS controls may include:
- (a) Organization and management controls — designed to establish an organizational framework over CIS activities, including:
 - (i) policies and procedures relating to control functions; and

- (ii) appropriate segregation of incompatible functions (e.g., preparation of input transactions, programming and computer operations).
 - (b) Application systems development and maintenance controls — designed to provide reasonable assurance that systems are developed and maintained in an authorized and efficient manner. They also typically are designed to establish control over:
 - (i) testing, conversion, implementation and documentation of new or revised systems;
 - (ii) changes to application systems;
 - (iii) access to systems documentation; and
 - (iv) acquisition of application systems from third parties.
 - (c) Computer operation controls — designed to control the operation of the systems and to provide reasonable assurance that:
 - (i) the systems are used for authorized purposes only;
 - (ii) access to computer operations is restricted to authorized personnel;
 - (iii) only authorized programs are used; and
 - (iv) processing errors are detected and corrected.
 - (d) Systems software controls — designed to provide reasonable assurance that systems software is acquired or developed in an authorized and efficient manner, including:
 - (i) authorization, approval, testing, implementation and documentation of new systems software and systems software modifications; and
 - (ii) restriction of access to systems software and documentation to authorized personnel.
 - (e) Data entry and program controls — designed to provide reasonable assurance that:
 - (i) an authorization structure is established over transactions being entered into the system; and
 - (ii) access to data and programs is restricted to authorized personnel.
- 7 There are other CIS safeguards that contribute to the continuity of CIS processing. These may include:
- (a) offsite back-up of data and computer programs;
 - (b) recovery procedures for use in the event of theft, loss or intentional or accidental destruction; and
 - (c) provision for offsite processing in the event of disaster.

CIS APPLICATION CONTROLS

- 8 The purpose of CIS application controls is to establish specific control procedures over the accounting applications in order to provide reasonable assurance that all transactions are authorized and recorded, and are processed completely, accurately and on a timely basis. CIS application controls include:
- (a) Controls over input — designed to provide reasonable assurance that:
 - (i) transactions are properly authorized before being processed by the computer;
 - (ii) transactions are accurately converted into machine-readable form and recorded in the computer data files;
 - (iii) transactions are not lost, added, duplicated or improperly changed; and

- (iv) incorrect transactions are rejected, corrected and, if necessary, resubmitted on a timely basis.
- (c) Controls over processing and computer data files — designed to provide reasonable assurance that:
 - (i) transactions, including systems-generated transactions, are properly processed by the computer;
 - (ii) transactions are not lost, added, duplicated or improperly changed; and
 - (iii) processing errors are identified and corrected on a timely basis.
- (d) Controls over output — designed to provide reasonable assurance that:
 - (i) results of processing are accurate;
 - (ii) access to output is restricted to authorized personnel; and
 - (iii) output is provided to appropriate authorized personnel on a timely basis.

REVIEW OF GENERAL CIS CONTROLS

- 9 The general CIS controls the auditor may wish to test are described in paragraph 6. The auditor should consider how these general CIS controls affect the CIS applications significant to the audit. General CIS controls that relate to some or all applications are typically interdependent controls in that their operation is often essential to the effectiveness of CIS application controls. Accordingly, it may be more efficient to review the design of the general controls before reviewing the application controls.

REVIEW OF CIS APPLICATION CONTROLS

- 10 Control over input, processing, data files and output may be carried out by CIS personnel, by users of the system, by a separate control group, or may be programmed into application software. CIS application controls the auditor may wish to test include:
- (a) Manual controls exercised by the user — if manual controls exercised by the user of the application system are capable of providing reasonable assurance that the system's output is complete, accurate and authorized, the auditor may decide to limit tests of control to these manual controls (e.g., the manual controls exercised by the user over a computerized payroll system for salaried employees could include an anticipatory input control total for gross pay, the test checking of net salary output computations, the approval of the payments and transfer of funds, comparison to payroll register amounts, and prompt bank reconciliation). In this case, the auditor may wish to test only the manual controls exercised by the user.
 - (b) Controls over system output — if, in addition to manual controls exercised by the user, the controls to be tested use information produced by the computer or are contained within computer programs, it may be possible to test such controls by examining the system's output using either manual or computer-assisted audit techniques. Such output may be in the form of magnetic media, microfilm or printouts (e.g., the auditor may test controls exercised by the entity over the reconciliation of report totals to the general ledger control accounts and may perform manual tests of those reconciliations). Alternatively, where the reconciliation is performed by computer, the auditor may wish to test the reconciliation by reperforming the control with the use of computer-assisted audit techniques (see [ASSURANCE AND RELATED SERVICES GUIDELINE AuG-34](#), Computer-Assisted Audit Techniques).
 - (c) Programmed control procedures — in the case of certain computer systems, the auditor may find that it is not possible or, in some

cases, not practical to test controls by examining only user controls or the system's output (e.g., in an application that does not provide printouts of critical approvals or overrides to normal policies, the auditor may want to test control procedures contained within the application program). The auditor may consider performing tests of control by using computer-assisted audit techniques, such as test data, reprocessing transaction data or, in unusual situations, examining the coding of the application program.

EVALUATION

- 11 The general CIS controls may have a pervasive effect on the processing of transactions in application systems. If these controls are not effective, there may be a risk that misstatements might occur and go undetected in the application systems. Thus, weaknesses in general CIS controls may preclude testing certain CIS application controls; however, manual procedures exercised by users may provide effective control at the application level.

Endnotes

1. Prior to April 1, 2002, the IAASB was named the International Auditing Practices Committee (IAPC).

assurance and related services guideline AuG-37 IT environments — online computer systems

This Guideline is to be read in conjunction with the [Introduction to Assurance and Related Services Guidelines](#) contained in the CICA Handbook – Assurance.

External References

This Guideline is derived from International Auditing Practice Statement (IAPS) 1002, issued by the International Auditing and Assurance Standards Board (IAASB) ¹ of the International Federation of Accountants (IFAC), entitled "IT Environments — Online Computer Systems." Changes to IAPS 1002 have been limited to minor editorial changes and to:

- substitution of other Handbook references for those to other ISAs; and
- certain terminology changes to conform with Handbook usage.

March 2003

TABLE OF CONTENTS	Paragraph
Introduction	1
Online computer systems	2
Types of online computer systems	9
Online / real-time processing	10
Online / batch processing	11
Online / memo update (and subsequent processing)	12
Online / enquiry	13
Online downloading / uploading processing	14
Characteristics of online computer systems	15
Internal control in an online computer system	20
Effect of online computer systems on the accounting system and related internal controls	23
Effect of online computer systems on audit procedures	27

INTRODUCTION

- 1 This Guideline describes the effects of an online computer system on the accounting system and related internal controls and on audit procedures.

ONLINE COMPUTER SYSTEMS

- 2 Online computer systems are computer systems that enable users to access data and programs directly through terminal devices. Such systems may comprise mainframe computers, minicomputers or a network of connected PCs. When the entity uses an online computer system, the technology is likely to be complex and linked with the entity's strategic business plans. The audit team may require special IT skills to make enquiries and to understand the implications of the responses obtained. The auditor may need to consider using the work of a specialist (see [USE OF SPECIALISTS IN ASSURANCE ENGAGEMENTS](#), Section [5049](#)).

- 3 Online systems allow users to directly initiate various functions such as:
 - (a) entering transactions (for example, sales transactions in a retail store, cash withdrawals in a bank and shipment of goods in a plant);
 - (b) making enquiries (for example, current customer account status or balance information);
 - (c) requesting reports (for example, a list of inventory items with negative "on hand" quantities);
 - (d) updating master-files (for example, setting up new customer accounts and changing general ledger codes); and
 - (e) electronic commerce activities (for example, placing orders and paying for goods over the Internet).
- 4 Online computer systems use many different types of terminal devices. The functions they perform vary widely, and depend on their logic, transmission, storage and basic processing capabilities. Types of terminal devices are:
 - (a) General purpose terminals, such as:
 - (i) Basic keyboard and screen — used for entering data without any validation within the terminal and for displaying data from the computer system on the screen. For example, in entering a sales order, the main computer validates the product code and the terminal screen displays the result of the validation.
 - (ii) Intelligent terminal — used for the functions of the basic keyboard and screen with the additional functions of validating data within the terminal, maintaining transaction logs and performing other local processing. In the above sales order example, the intelligent terminal verifies the correct number of characters in the product code and the main computer verifies the existence of the product code in the master-file.
 - (iii) PCs — used for all of the functions of an intelligent terminal with additional local processing and storage capabilities. Continuing the above example, the PC may perform all the verifications of the product code.
 - (b) Special purpose terminals, such as:
 - (i) Point-of-sale devices — used to record sales transactions as they occur and to transmit them to the main computer. Online cash registers and optical scanners used in the retail trade are typical point-of-sale devices.
 - (ii) Automated teller machines — used to initiate, validate, record, transmit and complete various banking transactions. Depending on the design of the system, certain of these functions are performed by the automated teller machine and others are performed online by the main computer.
 - (iii) Hand-held wireless devices for entering data from remote locations.
 - (iv) Voice response systems — used to allow user interaction with the computer over a telecommunications network based on verbal instructions issued by the computer. The customer communicates using a tone-generating device, which is often the keypad on the customer's telephone. Common applications include telephone banking and bill payment systems.
- 5 Terminal devices may be found either locally or at remote sites. Local terminal devices are connected directly to the computer through cables, whereas remote terminal devices require the use of telecommunications to link them to the computer. In some cases, however, even local terminals may be connected using telecommunications links or wireless

communication links. Terminal devices may be accessed by many users, for different purposes, in different locations, all at the same time. Users such as customers or suppliers may be within the entity or outside. In such cases, application software and data are kept online to meet users' needs. These systems also require other software, such as access control software and software that monitors online terminal devices.

- 6 Increased sharing of system resources through LANs and WANs has led to the growth of distributed online processing. Client / server systems have resulted in applications being split, so that processing can be performed across several machines. In a client / server environment, the processing of data takes place on the server and the desktop computer (client).
- 7 Employees, business partners, customers and other third parties may obtain access to an organization's online applications by using the Internet or other remote access services. External parties may access the organization's applications through electronic data interchange (EDI) or other electronic commerce applications.
- 8 In addition to the users of these systems, programmers may use the online capabilities to develop new programs and maintain existing programs. Computer supplier personnel may also have online access to provide maintenance and support services.

TYPES OF ONLINE COMPUTER SYSTEMS

- 9 Online computer systems may be classified according to how information is entered into the system, how it is processed and when the results are available to the user. For purposes of this Guideline, online computer systems functions are classified as follows:
 - (a) online / real-time processing;
 - (b) online / batch processing;
 - (c) online / memo update (and subsequent processing);
 - (d) online / enquiry; and
 - (e) online downloading / uploading processing.

Online / real-time processing
- 10 In an online / real-time processing system, individual transactions are entered at terminal devices, validated and used to update related computer files immediately. An example is the application of cash receipts directly to customers' accounts. The results of such processing are then available immediately for enquiries or reports.

Online / batch processing
- 11 In a system with online input and batch processing, individual transactions are entered at a terminal device, subjected to certain validation checks and added to a transaction file that contains other transactions entered during the period. Later, during a subsequent processing cycle, the transaction file may be validated further and then used to update the relevant master-file. For example, journal entries may be entered and validated online and kept on a transaction file, with the general ledger master-file being updated on a monthly basis. Enquiries of, or reports generated from, the master-file will not include transactions entered after the last master-file update.

Online / memo update (and subsequent processing)
- 12 Online input with memo update processing, also known as shadow update, combines online / real-time processing and online / batch processing. Individual transactions immediately update a memo file containing information that has been extracted from the most recent version of the master-file. Enquiries are made from this memo file. These same transactions are added to a transaction file for subsequent validation and updating of the master-file on a batch basis. For example, the withdrawal of cash through an automated teller machine is checked against the

customer's balance on the memo file, and is then immediately posted to the customer's account on that file to reduce the balance by the amount of the withdrawal. From the user's perspective, this system will seem no different from online / real-time processing since the results of data entered are available immediately. However, the transactions have not been subjected to complete validation before the master-file update.

Online / enquiry

- 13 Online / enquiry restricts users at terminal devices to making enquiries of master-files. In such systems, the master-files are updated by other systems, usually on a batch basis. For example, the user may enquire of the credit status of a particular customer before accepting an order from that customer.

Online downloading / uploading processing

- 14 Online downloading refers to the transfer of data from a master-file to an intelligent terminal device for further processing by the user. For example, data at the head office representing transactions of a branch may be downloaded to a terminal device at the branch for further processing and preparation of branch financial reports. The results of this processing and other locally processed data may then be uploaded to the head office computer.

CHARACTERISTICS OF ONLINE COMPUTER SYSTEMS

- 15 The characteristics of online computer systems may apply to many of the types of online systems discussed in the previous section. The most significant characteristics relate to online data entry and validation, online access to the system by users, possible lack of visible transaction trail and potential access to the system by non-users, including programmers and other third parties (for example, through e-mail and the Internet). The particular characteristics of a specific online system will depend on the design of that system.
- 16 When data are entered online, they are usually subject to immediate validation checks. Data failing this validation are not accepted and a message may be displayed on the terminal screen, providing the user with the ability to correct the data and reenter the valid data immediately. For example, if the user enters an invalid inventory part number, an error message is displayed, allowing the user to re-enter a valid part number.
- 17 Users may have online access to the system that enables them to perform various functions (for example, to enter transactions and to read, change or delete programs and data files through the terminal devices). Unlimited access to all of these functions in a particular application is undesirable because it provides the user with the potential ability to make unauthorized changes to the data and programs. Unlimited access precludes segregation of duties and allows users access to all stages of processing and recording a transaction. The extent of this access depends on things such as the design of the particular application and the implementation of software designed to control access to the system.
- 18 An online computer system may be designed not to provide supporting documents for all transactions entered into the system. Such a system must be able to provide details of the transactions on request or by transaction logs or other means. Examples of these types of systems include orders received by a telephone operator who enters them online without written purchase orders, and cash withdrawals from automated teller machines.
- 19 Programmers may have online access to the system that enables them to develop new programs and modify existing programs. Unrestricted access provides the programmer with the potential to make unauthorized changes to programs and obtain unauthorized access to other parts of the system

and would represent a serious control weakness. The extent of this access depends on the requirements of the system. For example, in some systems, programmers ordinarily have access only to programs maintained in a separate program development and maintenance library. Programmers may, however, be authorized to change the operational programs in emergencies that require changes to programs kept online. In such cases, formal control procedures would be followed after the emergency to ensure appropriate authorization and documentation of the changes.

INTERNAL CONTROL IN AN ONLINE COMPUTER SYSTEM

- 20 Applications in an online environment may have greater exposure to unauthorized access and update. An entity's security infrastructure plays an important part in ensuring the integrity of the information produced. The auditor, therefore, considers the security infrastructure before examining the general and application controls. The entity may need to establish suitable general controls to mitigate the risks of viruses, unauthorized access and the potential destruction of audit trails. Hence access controls are particularly important to online processing.
- 21 These controls may include the use of passwords and specialized access control software, such as online monitors, that maintain control over the menus, authorization tables, passwords, files and programs that users are permitted to access. They may also include physical controls such as the use of key locks on terminal devices, locked computer rooms and inactivity timeouts. Other important aspects of control in an online computer system include:
- (a) controls over passwords — procedures for the assignment and maintenance of passwords to restrict access to authorized users;
 - (b) system development and maintenance controls — additional procedures to ensure that controls essential to online applications, such as passwords, access controls, online data validation and recovery procedures, are included in the system during its development and maintenance; the controls are also designed to ensure that changes to systems operate as expected and are made in the correct manner;
 - (c) programming controls;
 - (d) transaction logs; and
 - (e) firewalls.
- 22 Certain application controls are particularly important to online processing. These include the following:
- (a) Pre-processing authorization. Authorization to initiate a transaction, for example, by using a bank card together with a personal identification number before being able to make a cash withdrawal through an automated teller machine.
 - (b) Terminal device edit, reasonableness and other validation tests. Programmed routines that check the input data and processing results for completeness, accuracy and reasonableness. These routines include sequence, limit, range and reasonableness checks and may be performed on an intelligent terminal device or on the central computer.
 - (c) Input error reporting and handling. Procedures to ensure that all input errors are properly reported, identified and rejected from further processing, corrected and resubmitted for processing in a timely manner. These procedures will generally comprise a mix of both manual and automated routines.
 - (d) Cut-off procedures. Procedures that ensure transactions are processed in the proper accounting period. These are particularly necessary in systems that have a continuous flow of transactions. For

- (e) File controls. Procedures that ensure the correct data files are used for online processing.
- (f) Master-file controls. Changes to master-files are controlled by procedures similar to those used for controlling other input transaction data. More stringent enforcement of these control procedures may be necessary because master-file data may have a pervasive effect on processing results.
- (g) Balancing. The process of establishing control totals over data being submitted for processing through the online terminal devices and comparing the control totals during and after processing to ensure that complete and accurate data are transferred to each processing phase. These balancing controls are important to monitoring completeness and accuracy controls in a real-time processing environment. They should be included in the automated program routines whenever possible.
- (h) Control may be established by an independent function that generally:
 - (i) receives all data for processing;
 - (ii) ensures that all data are authorized and recorded;
 - (iii) follows up all errors detected during processing;
 - (iv) verifies the proper distribution of output; and
 - (v) restricts physical access to application programs and data.

Separate controls are ordinarily required over master-file and transaction data.

EFFECT OF ONLINE COMPUTER SYSTEMS ON THE ACCOUNTING SYSTEM AND RELATED INTERNAL CONTROLS

- 23 The effect of an online computer system on the accounting system and the associated risks will generally depend on:
- (a) the extent to which the online system is being used to process accounting applications;
 - (b) the type and significance of financial transactions being processed; and
 - (c) the nature of files and programs the applications use.
- The entity's security infrastructure plays an important part in controlling the effect of the risks created by the entity's use of an online environment.
- 24 Factors such as the following may reduce the risk of errors occurring because of the entity's use of online systems.
- (a) performing data entry at or near the point where transactions originate reduces the risk that the transactions will not be recorded;
 - (b) immediate correction and re-entering of invalid transactions reduces the risk that such transactions will not be corrected and resubmitted quickly;
 - (c) data entry performed by individuals who understand the nature of the transactions involved may be less prone to error than when performed by individuals unfamiliar with the nature of the transactions;
 - (d) processing transactions immediately reduces the risk that they will be processed in the wrong accounting period; and
 - (e) authentication and authorization carried out at or near the point

where transactions originate reduces the risk of impersonation or other unauthorized access to or manipulation of data.

- 25 The risk of errors in online computer systems may be increased for the following reasons:
- (a) Locating terminal devices throughout the entity increases the opportunity for unauthorized use of a terminal device and the entry of unauthorized transactions.
 - (b) Online terminal devices may provide easier opportunity for unauthorized uses such as:
 - (i) modification of previously entered transactions or balances;
 - (ii) modification of computer programs; or
 - (iii) access to data and programs from remote locations.
 - (c) If online processing is interrupted for any reason (for example, due to faulty telecommunications), there may be a greater chance that transactions or files may be lost and that the recovery may not be accurate and complete.
 - (d) Online access to data and programs from remote sites through telecommunications may provide greater opportunity for access to data and programs by unauthorized persons. Organizations that have links to the Internet require greater controls, such as firewalls, to manage the risk of unauthorized access to data and programs.
 - (e) The use of electronic commerce and EDI for the exchange of documents between two organizations results in the loss of traditional paper audit trails, including invoices and purchase orders.
- 26 The characteristics of online computer systems, as described earlier in this Guideline, illustrate some of the considerations influencing the effectiveness of controls in online computer systems. Such characteristics may have the following consequences:
- (a) There may not be printed source documents for every input transaction.
 - (b) Results of processing may be highly summarized (for example, only totals from individual online data entry devices can be traced to subsequent processing).
 - (c) The online computer system may not be designed to provide printed reports (for example, edit reports may be replaced by edit messages displayed on a terminal device screen);
 - (d) Online computer systems running real-time processes pose particular difficulties for auditors as it can be difficult to achieve a clear cut-off of data. It can also be difficult in some IT environments to stop real-time processing long enough to obtain copies of data files or to run important reports for audit purposes at period end.
 - (e) In the event that real-time systems have to be restored, it is difficult to ensure that all of the data is properly reinstated and, importantly, that all systems integration interfaces and data feeds are reset to the date and time of the back-up data.

EFFECT OF ONLINE COMPUTER SYSTEMS ON AUDIT PROCEDURES

- 27 Generally, in a well-designed and controlled online computer system, it is likely that the auditor will test general and application controls. If those controls are deemed satisfactory, the auditor will place greater reliance on internal controls in the system when determining the nature, timing and extent of audit procedures. The characteristics of online computer systems may make it more effective for the auditor to perform a pre-implementation review of new online accounting applications rather than to review the applications after installation. To be fully effective, the review may need to extend to other applications that provide data for those accounting

applications; the auditor may also test that the new system operates and is implemented as designed. The pre-implementation review may provide the auditor with an opportunity to request additional functions, such as detailed transaction listings, or controls within the application design. It may also provide the auditor with sufficient time to develop and test audit procedures in advance of the system's use. In contrast, when the entity adopts a policy of continuous systems' upgrading, the change management procedures adopted may be critical to the ongoing effectiveness of the controls in place. The auditor may therefore examine the change management procedures rather than perform pre-implementation reviews.

28 The following matters are of particular importance to the auditor in an online computer system:

- (a) authorization, completeness and accuracy of online transactions through the implementation of appropriate controls at the time when the transaction is accepted for processing;
- (b) integrity of records and processing, due to many users and programmers having online access to the system; and
- (c) necessary changes in the performance of audit procedures, including the use of CAATs (see ASSURANCE AND RELATED SERVICES GUIDELINE [AuG-34](#), Computer-Assisted Audit Techniques), due to matters such as:
 - (i) the need for audit teams with technical skills in online computer systems;
 - (ii) the effect of the online computer system on the timing of audit procedures;
 - (iii) the lack of visible transaction trails;
 - (iv) procedures carried out during the audit planning stage (see paragraph [29](#));
 - (v) audit procedures performed concurrently with online processing (see paragraph [30](#)); and
 - (vi) procedures performed after processing has taken place (see paragraph [31](#)).

29 Procedures carried out during the planning stage may include the following:

- (a) the participation on the audit team of individuals with technical proficiency in online computer systems and related controls;
- (b) identification of any new remote access facilities; and
- (c) preliminary determination, during the risk assessment process, of the impact of the system on the audit procedures.

30 Audit procedures performed concurrently with online processing may include tests of the controls over the online applications. For example, this may be by means of entering test transactions through the online terminal devices or by the use of audit software. These tests may be used either to confirm the auditor's understanding of the system or to test controls such as passwords and other access controls. Where the entity permits access through the Internet, audit procedures can include tests of firewalls and other authorization and access controls, as well as tests of transaction processing. To avoid the inadvertent corruption of client records, the auditor reviews concurrent procedures with appropriate client personnel and obtains approval before conducting the tests.

31 Procedures performed after processing has taken place may include the following:

- (a) tests of controls over transactions logged by the online system for authorization, completeness and accuracy;
- (b) substantive procedures covering transactions and processing results

rather than tests of control, where the former may be more cost-effective or where the system is not well-designed or controlled; and
(c) reprocessing transactions as either a test of control or a substantive procedure.

Endnotes

1. Prior to April 1, 2002, the IAASB was named the International Auditing Practices Committee (IAPC).

assurance and related services guideline

AuG-38

IT environments — database systems

This Guideline is to be read in conjunction with the [Introduction to Assurance and Related Services Guidelines](#) contained in the CICA Handbook – Assurance.

External References

This Guideline is derived from International Auditing Practice Statement (IAPS) 1003, issued by the International Auditing and Assurance Standards Board (IAASB) ¹ of the International Federation of Accountants (IFAC), entitled "IT Environments — Database Systems." Changes to IAPS 1003 have been limited to minor editorial changes and to:

- substitution of other Handbook references for those to other ISAs; and
- certain terminology changes to conform with Handbook usage.

March 2003

TABLE OF CONTENTS	Paragraph
Introduction	1
Database systems	4
Database system characteristics	7
Data sharing	8
Data independence from application programs	9
Data dictionary	11
Data resource management	13
Data administration	15
Database administration	16
Internal control in a database environment	20
Standard approach for development and maintenance of application programs	22
Data model and data ownership	23
Access to the database	24
Segregation of duties	26
Data security and database recovery	27
The effect of databases on the accounting system and related internal controls	28
The effect of databases on audit procedures	31

INTRODUCTION

- 1 This Guideline describes the effects of a database system on the accounting system and related internal controls and on audit procedures.
- 2 A database is a collection of data that is shared and used by many different users for different purposes. Each user may not necessarily be aware of all the data stored in the database, or of the ways that the data may be used

for multiple purposes. Generally, individual users are aware only of the data that they use and may view the data as computer files utilized by their applications.

- 3 When an entity uses a database system, the technology is likely to be complex and may be linked with the entity's strategic business plans. The audit team may require special IT skills to make appropriate enquiries and to understand the implications of the responses obtained. The auditor may need to consider using the work of a specialist (see USE OF SPECIALISTS IN ASSURANCE ENGAGEMENTS, Section 5049).

DATABASE SYSTEMS

- 4 Database systems consist principally of two components: the database and the database management system (DBMS). Database systems interact with other hardware and software aspects of the overall computer system.
- 5 The software that creates, maintains and operates the database is referred to as DBMS software. Together with the operating system, the DBMS facilitates the physical storage of the data, maintains the interrelationships between the data, and makes the data available to application programs. It also provides controlled access methods to establish basic security measures over the data. Usually, the DBMS software is supplied by a commercial vendor but will need to be adapted to the entity's needs.
- 6 The guidance in this Guideline applies to database systems used in multiple user environments. Although database systems may reside on any type of computer system, including PCs, this Guideline does not relate to PC environments with only a single user.

DATABASE SYSTEM CHARACTERISTICS

- 7 Database systems are distinguished by two important characteristics: data sharing and data independence. These characteristics ordinarily require the use of a data dictionary (paragraph 11) and the establishment of a data resource management (paragraphs 13-19).

Data sharing

- 8 A database is composed of data set up with defined relationships and organized to permit many users to use the data in different application programs. Individual applications share the data in the database for different purposes. For example, an inventory item unit cost maintained by the database may be used by one application program to produce a cost-of-sales report and by another program to prepare an inventory valuation.

Data independence from application programs

- 9 The DBMS records the data once for use by various application programs. This creates a need for data sharing and a need for data independence from application programs. In non-database systems, separate data files are maintained for each application. Similar data used by several applications may be repeated in several different files. In a database system, however, a single file of data (or database) is used by many applications, with data redundancy kept to a minimum.

- 10 DBMSs differ in the degree of data independence they provide. The degree of data independence is related to the ease with which personnel can make changes to application programs or to the database. True data independence is achieved when the structure of data in the database can be changed without affecting the application programs, and vice versa.

Data dictionary

- 11 A significant implication of data sharing and data independence is the potential for the recording of data only once for use in several applications. Because various application programs need to access these data, a software facility is required to keep track of the location of the data in the database. This software within the DBMS is known as a data dictionary. It

also serves as a tool to maintain standardized documentation and definitions of the database environment and application systems. A data dictionary provides functions such as:

- (a) a facility to create or modify data definitions;
- (b) validation of the data definitions provided to ensure their integrity;
- (c) prevention of unauthorized access or manipulations of the data definitions; and
- (d) interrogation and reporting facilities that allow the database administrator to make enquires on the data definitions.

12 Databases may be structured as flat-file databases, or as relational databases. In a flat-file database, all the data concerning one record are stored as part of that record. With a relational database, data are stored as a series of tables, with links between the tables as necessary. Relational databases minimize the duplication of stored data, as data shared by more than one record need to be stored only once. The data themselves may comprise objects for use with object-oriented applications. This can lead to complicated data structures.

Data resource management

13 Data resource management forms an essential organizational control in ensuring data integrity and compatibility. In a database environment, the methods of informational control and usage change from an application-oriented approach to an organization-wide approach. In contrast to traditional systems where each application is a separate system with its own reporting and controls, in a database environment many controls may be centralized and the database is designed to serve the information needs of the entire organization.

14 The use of the same data by various application programs emphasizes the importance of centralized co-ordination of the use and definition of data and the maintenance of their integrity, security, accuracy and completeness. Data resource management is required to promote data integrity for the organization as a whole and includes a data administration function (refer to paragraph 15) and a database administration function (refer to paragraphs 16-19). The data administration function is concerned with the "ownership" of data, its meaning, its relationship with other data and its entity-wide integrity. In contrast, the database administration function is primarily concerned with the technical implementation of the database, the day-to-day operations of the database and the policies and procedures governing its access and everyday usage.

Data administration

15 The data administration function manages data as an organizational resource and includes responsibilities for:

- (a) the development and implementation of a data resource management strategic plan and policies, which support the entity's business plans by achieving cost-effective use of the organization's data;
- (b) the creation and maintenance of a corporate data model or architecture (sometimes referred to as an enterprise data model);
- (c) the co-ordination and integration of system data models;
- (d) obtaining agreement among users about definitions and format of data;
- (e) resolving conflicts about incompatible representation and data;
- (f) establishing a corporate-wide data dictionary and managing the organization's naming and definition standards;
- (g) establishing data standards and procedures for:
 - (i) data naming;

- (ii) data usage;
- (iii) data security;
- (iv) data definition compilation;
- (v) data modeling; and
- (h) providing training and consulting to users and the data information technology team members (system developers and database administrators) concerning all aspects of data resource management.

Database administration

- 16 Co-ordination is usually the responsibility of a group of individuals who are typically referred to as "database administration" . The individual who heads this function may be referred to as the "database administrator". Generally, the database administration function takes responsibility for the definition, structure, security, operational control and efficiency of databases, including the definition of the rules for accessing and storing data.
- 17 Database administration tasks may also be performed by individuals who are not part of a centralized database administration group. When the tasks of database administration are distributed among existing organizational units rather than being centralized, the different tasks still need to be co-ordinated.
- 18 Database administration tasks typically include:
- (a) Defining the database structure and the description of the data model. Determining how data are defined, stored and accessed by users of the database to ensure that all their requirements are met on a timely basis.
 - (b) Maintaining data integrity, security and completeness. Developing, implementing and enforcing the rules for data integrity, completeness and access. Responsibilities include:
 - (i) defining who is responsible for monitoring the appropriate origin of data and how such monitoring is performed;
 - (ii) defining who may access data and how the access is accomplished (for example, through passwords and authorization tables);
 - (iii) preventing the inclusion of incomplete or invalid data;
 - (iv) detecting the absence of data;
 - (v) securing the database from unauthorized access and destruction;
 - (vi) monitoring and follow-up of security incidents and regular backing-up of data; and
 - (vii) arranging total recovery in the event of a loss. In such a circumstance, the back-up protocol covering the data tables is likely to be complex.
 - (c) Co-ordinating computer operations related to the database. Assigning responsibility for physical computer resources and monitoring their use relative to the operation of the database.
 - (d) Monitoring system performance. Developing performance measures to monitor the integrity of the data, the ability of the database to respond to the needs of users and the frequency of data changes and access.
 - (e) Providing administrative support. Co-ordinating and liaising with the vendor of the DBMS, assessing new releases issued by the vendor of the DBMS and the extent of their effect on the entity, installing new releases and ensuring that appropriate internal education is provided.

- 19 Some applications may use more than one database. In these circumstances, the tasks of the database administration group will include the need to ensure:
- (a) adequate linkage between databases;
 - (b) co-ordination of functions; and
 - (c) consistency between data in different databases.

INTERNAL CONTROL IN A DATABASE ENVIRONMENT

- 20 Because an entity's security infrastructure plays an important part in ensuring the integrity of the information produced, the auditor considers that infrastructure before examining the general and application controls. Generally, internal control in a database environment requires effective controls over the database, the DBMS and the applications. The effectiveness of internal controls depends very much on the nature of data administration and the database administration tasks (see paragraphs 15-19), and on how they are performed.
- 21 In database systems, general controls normally have a greater influence than application controls because of data sharing, data independence and other characteristics of database systems. General controls over the database, the DBMS and the activities of the data resource management (data administration and database administration) have a pervasive effect on application processing. As paragraph 29 notes, the use of a DBMS and the functions built into it can help to provide effective controls. The general controls of particular importance in a database environment can be classified into the following groups:
- (a) standard approach for development and maintenance of application programs;
 - (b) data model and data ownership;
 - (c) access to the database;
 - (d) segregation of duties;
 - (e) data resource management; and
 - (f) data security and database recovery.

Standard approach for development and maintenance of application programs

- 22 Since many users share the data, using a standard approach to develop each new application program and to modify existing application programs may enhance control. This includes a formalized, step-by-step approach all individuals must follow when developing or modifying an application program. It also includes analyzing the effect of new and existing transactions on the database each time a modification is required. The resulting analysis would indicate the effects of the changes on the security and integrity of the database. Implementing a standard approach to develop and modify application programs is a technique that can help improve the accuracy, integrity and completeness of the database. The following are some of the controls that can help to achieve this.
- (a) Definition standards are established and monitored for compliance.
 - (b) Data backup and recovery procedures are established and implemented to ensure database availability.
 - (c) Various levels of access control for data items, tables and files are established to prevent inadvertent or unauthorized access.
 - (d) Controls are established to ensure accuracy, completeness and consistency of data elements and relationships in the database. However, in complex systems, the systems design may not always provide users with controls that prove the completeness and accuracy of data and there may be increased risk that the DBMS will not

always identify data or index corruptions.

- (e) Database restructuring procedures are followed when making logical, physical and procedural changes.

Data model and data ownership

- 23 In a database environment, where many individuals may use programs to input and modify data, the database administrator needs to ensure there is a clear and definite assignment of responsibility for the accuracy and integrity of each item of data. A single data owner should be assigned responsibility for defining access and security rules, such as who can use the data (access) and what functions they can perform (security). Assigning specific responsibility for data ownership helps to ensure the integrity of the database. For example, the credit manager may be the designated "owner" of a customer's credit limit and would be responsible for determining the authorized users of that information. If several individuals are able to make decisions affecting the accuracy and integrity of given data, the likelihood increases of the data becoming corrupted or improperly used. The controls over user profiles are also important when using a database system, not only to establish authorized access, but also to detect violations or attempted violations.

Access to the database

- 24 User access to the database can be restricted through access controls. These restrictions apply to individuals, terminal devices and programs. For passwords to be effective, adequate procedures are required for changing passwords, maintaining the secrecy of passwords, and reviewing and investigating attempted security violations. Relating passwords to defined terminal devices, programs and data helps to ensure that only authorized users and programs can access, amend or delete data. For example, the credit manager may give sales clerks authority to refer to a customer's credit limit, whereas a warehouse clerk might not have such authorization.

- 25 The use of authorization tables may further control user access to the various elements of the database. Improper implementation of access procedures can result in unauthorized access to the database. Appropriate controls also ensure that data stored is convertible into a human-readable format within a reasonable time.

Segregation of duties

- 26 The responsibilities for performing the various activities required to design, implement and operate a database are divided among technical, design, administrative and user personnel. Their duties include system design, database design, administration and operation. Maintaining adequate segregation of these duties is necessary to ensure the completeness, integrity and accuracy of the database. For example, individuals responsible for modifying personnel database programs should not be the same ones who are authorized to change individual pay rates in the database.

Data security and database recovery

- 27 Databases are likely to be used by people in many different parts of an entity's operations. This means that many parts of the entity would be affected if the data were unavailable or contained errors. Accordingly, the general controls for data security and database recovery assume a high level of importance in database systems.

THE EFFECT OF DATABASES ON THE ACCOUNTING SYSTEM AND RELATED INTERNAL CONTROLS

- 28 The effect of a database system on the accounting system and the associated risks will generally depend on factors such as:
 - (a) the extent to which databases are being used by accounting applications;

- (b) the type and significance of financial transactions being processed;
 - (c) the nature and structure of the database, the DBMS (including the data dictionary), the database administration tasks and the applications (for example, batch or online update); and
 - (d) the general and application controls that are particularly important in a database environment.
- 29 Database systems typically provide the opportunity for greater reliability of data than non-database systems. In such systems general controls assume a greater importance than application controls. This can result in reduced risk of fraud or error in accounting systems where databases are used. The following factors, combined with adequate controls, contribute to this improved reliability of data.
- (a) Improved consistency of data is achieved because data are recorded and updated only once, rather than being stored in several files and updated at different times and by different programs.
 - (b) Integrity of data will be improved by effective use of facilities included in the DBMS, such as recovery / restart routines, generalized edit and validation routines, and security and control features.
 - (c) Other functions available with the DBMS can facilitate control and audit procedures. These functions include report generators, which may be used to create balancing reports, and query languages, which may be used to identify inconsistencies in the data.
- 30 Alternatively, the risk of misstatement may increase if database systems are used without adequate controls. In a typical non-database environment, controls exercised by individual users may compensate for weaknesses in general controls. In a database system, however, individual users cannot always compensate for inadequate database administration controls. For example, accounts receivable personnel cannot effectively control accounts receivable data if other personnel are not restricted from modifying accounts receivable balances in the database.

THE EFFECT OF DATABASES ON AUDIT PROCEDURES

- 31 Audit procedures in a database environment will be affected principally by the extent to which the accounting system uses the data in the database. Where significant accounting applications use a common database, the auditor may find it cost-effective to use some of the procedures in the following paragraphs.
- 32 To obtain an understanding of the database control environment and the flow of transactions, the auditor may consider the effect of the following on audit risk in planning the audit.
- (a) The relevant access controls. People outside the traditional accounting function may use the databases, and the auditor considers the access controls over accounting data and all those who may have access to it.
 - (b) The DBMS and the significant accounting applications using the database. Other applications within the entity may generate or alter data the accounting applications use. The auditor considers how the DBMS controls these data.
 - (c) The standards and procedures for development and maintenance of application programs using the database. Databases, especially those on stand-alone computers, may often be designed and implemented by people outside the IT or accounting functions. The auditor considers how the entity controls the development of these databases.
 - (d) The data resource management function. As discussed in paragraphs 13-19, this function plays an important role in maintaining the

integrity of data stored on the database.

- (e) Job descriptions, standards and procedures for those individuals responsible for technical support, design, administration and operation of the database. With database systems, it is likely that a wider range of individuals have significant data responsibilities than would be the case with non-database systems.
 - (f) The procedures used to ensure the integrity, security and completeness of the financial information contained in the database.
 - (g) The availability of audit facilities within the DBMS.
 - (h) The procedures used to introduce new versions of the database into operation.
- 33 When determining the extent of reliance on internal controls related to the use of databases in the accounting system, the auditor may consider how the controls described in paragraphs 22-27 are used. If the auditor subsequently decides to rely on those controls, the auditor designs and performs appropriate tests.
- 34 When the auditor decides to perform tests of control or substantive procedures related to the database system, it will often be more effective to do so using computer-assisted audit techniques. The fact that the data are all stored in one place and organized in a consistent manner makes extraction of samples easier. Also, databases may include data generated outside the accounting function, which will help make the application of analytical procedures more effective.
- 35 Audit procedures may include using the functions of the DBMS to:
- (a) test access controls;
 - (b) generate test data;
 - (c) provide an audit trail;
 - (d) check the integrity of the database;
 - (e) provide access to the database or a copy of relevant parts of the database to enable the use of audit software (see ASSURANCE AND RELATED SERVICES GUIDELINE AuG-34, Computer-Assisted Audit Techniques); and
 - (f) obtain information necessary for the audit.
- Before using the DBMS facilities, the auditor considers whether they are functioning adequately.
- 36 If the database administration controls are inadequate, the auditor may not be able to compensate for weak controls by any amount of substantive work. Therefore, when it becomes clear that the controls in the database system cannot be relied on, the auditor considers whether performing substantive procedures on all significant accounting applications that use the database would achieve the audit objective. If the auditor is unable to overcome the weakness in the control environment with substantive work to reduce audit risk to an acceptably low level, RESERVATIONS IN THE AUDITOR'S REPORT, Section 5510, requires the auditor to qualify or deny an opinion.
- 37 The characteristics of database systems may make it more effective for the auditor to perform a pre-implementation review of new accounting applications rather than to review the applications after installation. This pre-implementation review and review of the change-management process may provide the auditor with an opportunity to request additional functions, such as built-in audit routines or controls within the application design. It may also provide the auditor with sufficient time to develop and test audit procedures in advance of the system's use.

1. Prior to April 1, 2002, the IAASB was named the International Auditing Practices Committee (IAPC).

CAPP-NGTL-048(a)

Issue:

Code of Conduct – Confidential Information

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Appendix C – Code of Conduct (Black-lined Copy), Section 3.3.4.2

Preamble:

Sections 3.3.1 and 3.3.2 of the ATCO Code were deleted, and essentially replaced by Section 3.3.4 in the NGTL Code.

Request:

Please explain why the provision contained in Section 3.3.1 (a) in the ATCO Code, which states that employees that have access to confidential information can not be shared, is not included in Section 3.3.4 of the NGTL Code.

Response:

The requirements of Section 3.3.1(a) in the ATCO Code could not be met under TCPL's integrated structure.

NGTL's current corporate structure utilizing services of shared TCPL employees benefits NGTL's customers through reduced operational costs. Many shared employees have access to NGTL confidential information. However, this approach does not compromise the confidentiality of this information because employees working on NGTL matters are still subject to the confidentiality provisions in Section 6.1 of the Code.

CAPP-NGTL-048(b)

Issue:

Code of Conduct – Confidential Information

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix C – Code of Conduct (Black-lined Copy), Section 3.3.4.2

Preamble:

Sections 3.3.1 and 3.3.2 of the ATCO Code were deleted, and essentially replaced by
Section 3.3.4 in the NGTL Code.

Request:

Please explain why the provision contained in Section 3.3.2 of the ATCO Code, which
requires the execution of confidentiality agreements, should not apply to employees
shared per Section 3.3.4 of the NGTL Code.

Response:

Please refer to the response to CAPP-NGTL-048(a).

CAPP-NGTL-048(c)

Issue:

Code of Conduct – Confidential Information

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct,
Appendix C – Code of Conduct (Black-lined Copy), Section 3.3.4.2

Preamble:

Sections 3.3.1 and 3.3.2 of the ATCO Code were deleted, and essentially replaced by
Section 3.3.4 in the NGTL Code.

Request:

In the absence of either of these two provisions, please explain what controls would be in
place to ensure confidential information is not inappropriately shared with NGTL's
affiliates through the sharing of employees.

Response:

Please refer to the response to CAPP-NGTL-048(a).

CAPP-NGTL-049

Issue:

Code of Conduct – Asset Transfers

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 11, and Appendix C – Code of Conduct (Black-lined Copy), Section 2.1 and Section 4.6

Preamble:

Section 4.6 of the ATCO Code provided for asset transfers between regulated utilities on a cost recovery basis, which for this purpose was defined in Section 2.1 to mean net book value. Both of these aspects were not included in the NGTL Code on the basis that NGTL's regulated affiliates are subject to different regulatory jurisdictions.

Request:

Please explain why the NGTL Code does not include the principle that asset transfers between regulated affiliates should be done on a cost recovery basis (i.e. net book value), unless otherwise determined by the respective regulator.

Response:

Section 4.6 in the ATCO Code allows asset transfers between Utilities on a Cost Recovery Basis. All the Utilities are regulated by the Board, allowing the imposition of symmetrical requirements.

However, NGTL's Regulated Affiliates are subject to the jurisdiction of regulators other than the Board. The legislative and regulatory requirements that govern the transfer of assets from or to these Regulated Affiliates from other affiliates may differ from the requirements that NGTL must follow. Accordingly, NGTL has removed this provision from its Code.

The removal of this section from the Code will not lower the regulatory threshold for asset transfers to or from NGTL and any Affiliates, regulated or not. NGTL must always properly account for all such transactions on its books, and its actions are subject to the Board's oversight.

CAPP-NGTL-050

Issue:

Code of Conduct – Definitions

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 11, and Appendix C – Code of Conduct (Black-lined Copy), Section 5.3, 7.2, 7.4, 7.5, 7.6, 7.8, 9.1, and 9.2.

Preamble:

The NGTL Code utilizes the term “representatives” in place of “employees.”

Request:

- (a) What is NGTL’s definition of the term “representatives?”
- (b) Does the term “representatives” refer to “employees” only, or does it also refer to agents, officers, directors, etc. of NGTL.

Response:

- (a) and (b)

The term “representatives” was intended to replace the term “employees” in the ATCO Code of Conduct. Representatives are TCPL employees that work on NGTL matters.

CAPP-NGTL-051

Issue:

Code of Conduct – Confidential Customer Information

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 13, and Appendix C – Code of Conduct (Black-lined Copy), Section 6.3 and 6.4.

Preamble:

The NGTL Code allows for the sharing of confidential customer information with regulated affiliates.

Request:

- (a) Please list all of the regulated affiliates of NGTL that would have access to confidential NGTL customer information.
- (b) Which of these regulated affiliates does not directly interconnect with NGTL?
- (c) Would confidential customer information be made available to regulated affiliates through means other than the sharing of operational information?
- (d) Please describe the type of confidential customer information, other than that required for system planning and routine operational purposes, which would be made available to the regulated affiliates of NGTL through the sharing of operational information.

Response:

- (a) TransCanada PipeLines Limited.
- (b) None.
- (c) Yes.

CAPP-NGTL-051

- (d) TCPL employees would have access to the files and records of NGTL. Confidential information could include reserves data, market data, and customer contracts.

CAPP-NGTL-052

Issue:

Code of Conduct - Compliance Report

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Page 6, and Appendix C – Code of Conduct (Black-lined Copy), Section 7.5.

Preamble:

NGTL has embedded the original requirement to report Major Transactions into the Affiliate Party Transaction Summary Report.

Request:

Please explain why NGTL believes it is appropriate to provide only a “summary overview” and a “general description” for major transactions, instead of a specific “list and detailed description” as prescribed in the ATCO Code?

Response:

NGTL viewed the requirement to provide a "summary overview" and a "general description" as well as a "specific list and detailed description" as duplicative. NGTL intends to file sufficient information in the Affiliate Party Transaction Summary Report to satisfy the requirement for a specific "list and detailed description".

CAPP-NGTL-053(a)

Issue:

Code of Conduct - Compliance Report

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Appendix C – Code of Conduct (Black-lined Copy), Section 7.5.

Preamble:

The Compliance Report of the NGTL Code excludes certain components contained in the ATCO Code.

Request:

Please explain why the NGTL Code does not include the requirement to include a summary of Occasional Services in the Compliance Report, as contained in the ATCO Code.

Response:

NGTL will report Occasional Service transactions as part of the Affiliated Party Transactions Summary required under Section 7.6 (i) of the Code.

CAPP-NGTL-053(b)

Issue:

Code of Conduct - Compliance Report

Reference:

2004 General Rate Application Phase 1, Section 9.0 – Code of Conduct, Appendix C – Code of Conduct (Black-lined Copy), Section 7.5.

Preamble:

The Compliance Report of the NGTL Code excludes certain components contained in the ATCO Code.

Request:

Please explain why the NGTL Code does not include the requirement to list all employee transfers, temporary assignments, or secondments in the Compliance Report, as contained in the ATCO Code.

Response:

NGTL does not have any employees.